SAUDI BOARD
ANATOMIC PATHOLOGY CURRICULUM
2015

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Any amendment to this document shall be approved by the Specialty Scientific Council and the Executive Council of the commission and shall be considered effective from the date the updated electronic version of this curriculum was published on the commission Web site, unless a different implementation date has been mentioned.

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ACKNOWLEDGEMENTS

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We also acknowledge that the CanMEDS framework is copyrighted by the Royal College of Physicians and Surgeons of Canada, and many of the descriptions and anatomic pathology competencies have been acquired from that organization’s resources with permission.

This work could not have been accomplished without the support of the above-mentioned individuals and organizations.
INTRODUCTION

Saudi Commission for Health Specialties (SCFHS)
The Saudi Commission for Health Specialties provides a training program, followed by certification, in the specialty of anatomic pathology.

The SCFHS runs pathology examinations as part of its residency training program. Success in these and the required pre-examination training qualifies the medical graduate to practice as a consultant/specialist in the specialty of anatomic pathology.

Graduates in medicine can apply to the SCFHS for this training program.

To ensure adequate training, the scientific committee of the Saudi Board in Anatomic Pathology (SBAP) in the SCFHS offers advice, subject and sub-discipline outlines, mentoring, and training accreditation to help graduates and their supervisors meet the large number of requirements needed to prepare for examinations.

This booklet provides medical graduates, current pathology trainees, and supervisors with information on applications of pathology training, examinations, and qualification requirements.
DEFINITIONS

Pathology & Laboratory Medicine
Pathology and laboratory medicine are one of the major medical specialties. A certified specialist in this field is in charge of running and supervising the medical laboratory.

Seventy percent of all clinical decisions are based on laboratory results. The medical laboratory is a critical component of all hospitals, both small and large.

There is a clear shortage nationally and internationally of highly qualified pathologists. Moreover, there is a continuously increasing demand for specialists in the field of pathology, particularly due to a revolution in medical services in many countries. Medical school graduates have shown an increasing interest in pathology and laboratory medicine in recent years, so the availability of a nationally certified and recognized program would encourage more graduates to specialize in this field.

Anatomic Pathology
Anatomic pathology, or histopathology, is the study of organs, tissues, and cells in normal and pathologic states. It also includes studying the body’s anatomy and dissection. Specialists in anatomic pathology are in charge of tissue-cell interpretation and cancer diagnosis. Accurate diagnosis and staging of cancer cases is critical for planning patients’ management and follow-up, particularly with the emergence of personalized medicine. Specialists in anatomic pathology can help prevent cancer under- or over-diagnosis or the failure to detect cancer in its early stages. Anatomic pathologists are also quite helpful to other physicians in accurately diagnosing non-neoplastic lesions. Accordingly, the need for competent, dedicated, and safe pathologists cannot be overemphasized.
VISION AND MISSION

Vision
Giving training precedence to achieve diagnostic excellence.

Mission
The mission of this program is to provide state-of-the-art residency training and to graduate confident pathologists who will provide high-caliber diagnostic services and be competitive to accredited international standards.

The program aims to train leaders in anatomic pathology and focuses on satisfying each of the core competencies outlined by CanMEDS.

Through extensive hands-on teaching, microscopy sign-out sessions, mentoring, didactic lectures, and guided research opportunities, the program aims to provide trainees with the necessary foundation and confidence to make correct and accurate diagnoses, which are truly the cornerstone of patient care.

We aim to help our residents build careers of lifelong learning and commitment based on the ethics and regulations of the medical profession.
EDUCATIONAL GOALS, OBJECTIVES, AND ANATOMIC PATHOLOGY COMPETENCIES

Goals and Objectives
The aim of the program is to enroll residents in a well-structured, comprehensive residency-training program certified by the SCFHS in anatomic pathology. After successful completion of training and passing the final certification exam, the graduates will function as independent specialists in this field.

They will be able to interpret submitted tissue and cytology materials efficiently and accurately in a timely fashion.

They will be competent at utilizing, whenever available, appropriate ancillary studies and conveying their final opinion in a clear and concise manner to the treating physician.

Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, graduates must be able to address issues of gender, age, culture, ethnicity, and ethics in a professional manner.

Anatomic Pathology Competencies
At the completion of training, the resident will have acquired the following competencies and will function effectively per the framework competencies of CanMEDS roles (see Appendix A for further details):

<table>
<thead>
<tr>
<th>Medical expert</th>
<th>Scholar</th>
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<tr>
<td>Professional</td>
<td>Health advocate</td>
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<tr>
<td>Communicator</td>
<td>Manager</td>
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<tr>
<td>Collaborator</td>
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PROGRAM FRAMEWORK

General Training Requirements

• Admission into the program is in accordance with the Commission Training Rules and Regulations.
• Trainees shall abide by the training regulations and obligations established by the SCFHS.
• Training is a full-time commitment. Residents shall be enrolled in full-time, continuous education for the entire duration of the program.
• Training is to be conducted in institutions accredited for training by the Central Accreditation Committee and the SBAP.
• Training shall be comprehensive and includes surgical pathology, cytology, autopsy, electron microscopy, flow cytometry, cytogenetics/molecular pathology, and laboratory techniques.
• Trainees shall be actively involved in working up a patient’s specimen to make a diagnosis with gradual progression of responsibility.
• Trainees shall be able to manage all kinds of surgical specimens and cytology samples according to set standards, from receiving to final reporting.
• The trainee should be able to perform basic autopsy dissection, clinical summation, gross description of dissected organs, and sampling and microscopic description with the formulation of the provisional and final autopsy report.

Trainees shall abide by training regulations and obligations set by the SCFHS.
STRUCTURE OF TRAINING PROGRAM

- This is a structured, five-year postgraduate training program in anatomic pathology. It is divided into two parts: junior residency (the first two years) and senior residency (the final three years).
- The junior years (R1 and R2) are designed to provide training in basic pathology and histotechnology courses, together with rotations in surgical pathology and introduction to cytopathology.
- During the senior residency years (R3, R4, and R5), after passing the PART 1 EXAM, residents are allocated to various subspecialties in anatomic pathology in addition to rotations in surgical pathology, cytopathology, and autopsy. Residents are expected to rotate in molecular pathology, cytogenetics, and flow cytometry laboratories as well. Rotations are arranged by the regional training committee.
- Residents are required to complete the allocated rotations satisfactorily for a given year and pass the end-of-year evaluation exam (the Anatomic Pathology Promotion Examination, both written and practical) as well as obtain a satisfactory end-of-year evaluation before passing from one academic year to the next.
- The regional training committee will direct the sequence of the rotations.
- Each resident must examine and assess at least 2,500 surgical pathology specimens. This material must be from an adequate mix of cases to ensure exposure to both common and uncommon conditions.
- Each resident must participate in at least 150 intra-operative consultations.
- Each resident must examine at least 1,000 cytologic specimens, including a variety of both exfoliative and aspiration specimens.
- After successful completion of all program requirements throughout the five-year training period and after obtaining the Final In-Training Evaluation Report (FITER), the candidate will receive a training completion certificate issued by the regional supervising training committee. The candidate will then be eligible to take the Final Saudi Board Certification Examination in anatomic pathology.
- Candidates who successfully complete the Final Certification Examination will receive the Saudi Board in Anatomic Pathology certificate.
PROGRAM SUPERVISION

The residency program is supervised by various authorities, including the following:

- Chairperson of the scientific committee
- Director of the regional supervisory committee (chair of local committees)
- Program director at the training center
- SBAP secretary (coordinator)

See the section “SCFHS policies and procedures” for more details.
MINIMUM TRAINING REQUIREMENTS FOR ANATOMIC PATHOLOGY RESIDENCY

The SCFHS requires five years of training for eligibility to sit for the Saudi Board in Anatomic Pathology (SBAP) exam. The Saudi Board in Anatomic Pathology is a joint program and involves rotations in different regional hospitals.

Please see Table 1 for anatomic pathology training-rotation blocks.

Table 1

<table>
<thead>
<tr>
<th>ANATOMIC PATHOLOGY TRAINING ROTATIONS (BLOCKS)</th>
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<tr>
<td><strong>R1</strong></td>
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<td>Grossing/ Surgical Pathology</td>
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<td>Autopsy</td>
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Table 1

* The Neuropathology subspecialty rotation is mandatory. If the subspecialty is not available in the particular training center, the resident should be given a chance to travel where he or she can fulfill this rotation. The subspecialty rotations include dermatopathology, lymphoma pathology, renal pathology, and liver pathology. These rotations are variable and limited by the availability of subspecialized consultants in the approved hospitals for training. These subspecialty rotations are recommended and should be encouraged according to availability.

€ All elective rotations should be discussed with the program director and approved by local/supervisory committees following the submission of a written proposal with clear objectives accommodating the CanMEDS Framework. Elective rotations are either General Surgical Pathology or Subspecialty rotations.

@ If research was taken earlier, this block should be utilized for cytology or an elective. Elective rotation outside the Kingdom of Saudi Arabia is encouraged to begin during R3.

Δ If the molecular rotation is taken during R4/R5, the period might be deducted from the elective rotation.
Introduction to Anatomic Pathology and Histology Course (R1)

Outline of Course
This is a new rotation. Its purpose is to review basic anatomy and histology and to be a “bridge” rotation between clinical medicine and laboratory medicine. In addition to teaching anatomy and histology, residents will have sessions on laboratory structure, tissue processing, special stains and ancillary techniques, and laboratory safety.

The histology portion will review the basic histology of all organ systems and will be taught by pathologists as well as senior pathology residents. A histology exam will be administered at the end of the rotation.

Residents will be asked questions during the highly interactive anatomy sessions and are expected to review the anatomy before each session. An anatomy exam will be given at the end of the rotation.

Residents will also receive instruction on histopathology and laboratory techniques. They will receive a general orientation to the lab, a safety orientation, and hands-on experience in cutting sections from paraffin blocks and cutting frozen sections. They will also receive training on immunohistochemistry from the technical supervisor at the training institute.

The course will be held in King AbdulAziz Medical City, Department of Pathology, for two months. It is mandatory for first-year residents to attend this course. During the period of this course, the junior residents are exempted from the resident academic half day. They may attend the academic half-day session once this course is completed.

Clinical Competencies

Medical Expert
The resident will become familiar with normal anatomy and histology and gain knowledge of specimen acquisition, tissue processing, routine and special stains, and immunohistochemistry.

The resident will become familiar with laboratory safety policies and procedures.

The resident will be able to describe the uses of fixatives (in particular, formalin), understand the principles of paraffin tissue processing, recognize the significance of correctly processed and oriented blocks, and describe the use of the microtome.

The resident will understand the basic reagents and staining principles used in hematoxylin and eosin staining and special stains (e.g., Gram stain, Congo red, etc.)
LEARNING OBJECTIVES AND CLINICAL COMPETENCIES

Communicator
The resident will communicate effectively with medical colleagues as well as nursing and technical staff verbally and in written reports.

The resident will develop rapport, trust, and professional relationships with other physicians and allied healthcare workers.

Collaborator
The resident will work effectively with other health professionals to prevent, negotiate, and resolve interprofessional conflict.

Manager
The resident will manage time in order to maximize educational resources and opportunities.

The resident will acquire general knowledge of how to allocate finite healthcare resources appropriately.

The resident will serve in administration and leadership roles, as appropriate.

Health Advocate
The resident will know and follow all safety precautions in the laboratory facility and strive to implement and follow all rules and regulations at all times.

Scholar
The resident will maintain ongoing learning and will facilitate the learning of patients, families, students, residents, other health professionals, the public, and others, as appropriate.

The resident will contribute to the growth of medical knowledge through research.

Professional
The resident will abide by the codes of ethics always.
The resident will demonstrate commitment to excellence and ongoing professional development.

Topics Covered

1. **Introduction to Anatomic Pathology and Histology**
   - Terminology in surgical pathology and requests for pathologic evaluation
   - Specimen processing: from gross specimens to tissue cassettes (including fixation)
   - Specimen processing: from tissue cassettes to glass slides (histology laboratory from A-Z)
LEARNING OBJECTIVES AND CLINICAL COMPETENCIES

• Surgical pathology reporting (including synoptic reporting and cancer staging)
• Operating-room consultations, frozen sections, and consultation reports
• Microscopy and photography
• Special studies
  ▫ Histochemistry (special stains)
  ▫ Electron microscopy
  ▫ Immunofluorescence in kidney and skin disease
  ▫ Immunohistochemistry
  ▫ Flow cytometry
  ▫ Cytogenetics and FISH
  ▫ Molecular pathology
• Laboratory operation
  ▫ Safety
  ▫ Quality management (quality control, assurance, and improvement)
  ▫ Errors in surgical pathology
  ▫ Laboratory management
  ▫ Pathology informatics
• Normal Histology and anatomy
  ▫ Skin
  ▫ Connective tissue, bone, cartilage, and muscle
  ▫ Cardiovascular system
  ▫ Nervous system
  ▫ Lymphatic system
  ▫ Oral cavity and salivary glands
  ▫ Gastrointestinal tract
  ▫ Liver, gallbladder, and pancreas
  ▫ Urinary system
  ▫ Male reproductive system
  ▫ Female reproductive system
  ▫ Eye and ear
• Principles of grossing of specimens
  ▫ General principles of specimen grossing
  ▫ Simple specimens and biopsies
  ▫ Breast and sentinel lymph nodes
  ▫ Skin
  ▫ Thyroid, parathyroid, and adrenal glands
  ▫ Lymph nodes and spleen
  ▫ Esophagus, stomach, and small intestine
  ▫ Colon
  ▫ Liver
  ▫ Pancreas and Whipple procedure
  ▫ Kidney
  ▫ Urinary bladder
  ▫ Prostate
  ▫ Testis
  ▫ Uterus and cervix
  ▫ Ovary
LEARNING OBJECTIVES AND CLINICAL COMPETENCIES

- Neuropathology specimens
- Head and neck
- Amputations and bone specimens
- Lung and pleura
- Heart explants

2. Basic pathology (Main reference: Robbins & Cotran Pathologic Basis of Disease)
3. Cellular response to stress: adaptation, injury, and death
4. Inflammation
5. Tissue renewal, regeneration, and repair
6. Hemodynamic disorders, thromboembolic disease, and shock
7. Genetic disorders
8. Diseases of the immune system
9. Neoplasia
10. Infectious diseases
11. Environmental and nutritional diseases
12. Diseases of infancy and childhood
SURGICAL PATHOLOGY ROTATION

First- and Second-Year Resident (R1, R2)

In the beginning of the training, the trainee is expected to familiarize himself/herself with the normal anatomy and histology of various organs. Initially, the resident will be paired with a senior resident (R3, R4, or R5) to learn frozen-section techniques, specimen preparation, and grossing techniques.

The R1 and R2 resident will gradually start preparing and grossing the majority of large specimens. It is expected that residents will read about standard grossing and handling from approved references for every case beforehand so that they have an understanding of the approach to the specimen. The assigned pathologist must be available at all times to provide assistance and guidance to the junior resident. Photography and proper triaging of specimens should be practiced. After the case is grossed and the slides are available, the junior resident along with the signing-out pathologist may choose a few cases to examine in order to document the microscopic findings and give a diagnosis or differential diagnosis. The junior resident is to ask the staff pathologist (and/or senior resident) for instruction and guidance at any time, as needed.

The one-to-one microscope review session is the mainstay of learning in surgical pathology.

Third-Year Resident (R3)

The resident at this stage can take full responsibility for grossing the specimens. He/she must participate in guiding and teaching the junior (R1, R2) residents as well.

It is expected that the resident will read about each case beforehand so that he/she has an idea about the approach to the specimen. The assigned pathologist must be available at all times to provide assistance and guidance to the resident. It is advised that the cases be discussed with the assigned pathologist before grossing and that possibilities for ancillary testing, such as electron microscopy, flow cytometry, and cultures be considered as well. After a case is grossed and the slides are available, the resident should view them, try to document the microscopic findings, and give his/her diagnosis or differential diagnosis.

The resident is required to read about cases and perform literature searches. The resident is also encouraged to maintain a regular schedule of reading of standard textbooks to ensure that all topics are covered thoroughly.
Clinical Competencies: (R1, R2, R3)

Medical Expert/Clinical Decision Maker
- The resident will master the grossing of common small and large surgical specimens.
- The resident will develop gradual microscopic skills to identify common pathological findings in the routine surgical service of a medium-sized hospital.
- The resident will familiarize himself/herself with the principles of tissue fixation and processing, common special staining procedures (i.e., neutral fat, glycogen, elastin, etc.), and immunohistochemistry.
- The resident will integrate clinical, radiological, and other laboratory data to provide the best diagnosis and direct further investigations and therapeutic strategies.

Communicator
The resident will assist in the continuing education of physicians and other members of the hospital staff by participating in conferences and case presentations.

Collaborator
The resident will demonstrate the ability to advise on the appropriateness of obtaining histological and cytological specimens for diagnostic, teaching, and research purposes and to advise on further appropriate investigations.

Manager
The resident will utilize time and resources effectively to balance patient care, budget restrictions, professional expectations, and personal life.

Health Advocate
The resident will recognize and reinforce to the public and to the medical profession the essential contribution of laboratory medicine to health.

Scholar
- The resident will contribute to the development of new knowledge through research.
- The resident will participate in rounds, conferences, and teaching sessions.
- The resident will maintain and enhance professional activities through ongoing learning.
Professional

- The resident will deliver the highest quality of care with integrity, honesty, and compassion.
- The resident will practice medicine in an ethical manner and with sensitivity to the diversity of patients and co-workers.

**Fourth- and Fifth-Year Resident (R4, R5)**

**Outline of Rotation:**
The senior resident at this stage takes up a leadership and mentorship role for the junior residents. Apart from his/her daily duties of grossing and signing out, the senior resident should mentor the junior resident for grossing techniques and methods.

After grossing is complete and the slides are available, the senior resident must look at the slides, document the microscopic findings, and give a diagnosis or differential diagnosis. The senior resident may order or request levels or deeper sections and may pull out previous slides, reports, radiological studies, or necessary ancillary testing in consultation with the assigned pathologist to prepare the case for final reporting with the staff pathologist.

The resident is required to read about cases and perform literature searches. The resident is also encouraged to maintain a regular schedule of reading of standard textbooks to ensure that all topics are covered thoroughly.

**Clinical Competencies**

**Medical Expert/Clinical Decision Maker**
The resident will develop knowledge of gross anatomy, histology, and ultra-structural morphology of normal cells, tissues, and organs and their embryologic development.

The resident will develop knowledge of the host response to injury, including etiological and pathogenic mechanisms, morphological alterations, and functional manifestations.

The resident will develop technical skills in the examination of surgically excised tissue, including intra-operative evaluation, gross examination, performance of fine needle aspiration (FNA) procedures, performance of some laboratory techniques, and proper utilization and care of light and electron microscopes.

The resident will acquire diagnostic skills in interpreting histology and cytology slides, electron microscopy images, special and immunohistochemical stains, flow cytometry, and molecular studies. The resident will develop diagnostic skills in interpreting frozen section slides and be familiar with technical difficulties, the artifacts and pitfalls of frozen sections, and the limitations and indications of frozen sections.
The resident should demonstrate adequate knowledge about when to change the diagnosis of a frozen section case to permanent.

He/she must know the indication, limitation, and usefulness of each ancillary study and consult seniors and colleagues for difficult and unusual cases. Therefore, he/she will become a medical expert in the field of anatomic pathology.

The resident will develop skills in interpretation of microscopic pathology to enable identification of common disease processes and formulation of a reasonable differential diagnosis for less common conditions.

The resident will be able to effectively supervise the routine technical procedures of the histology laboratory and troubleshoot any QA/QC issues that arise.

The resident will become familiar with the principles of tissue fixation and processing, common special staining procedures (i.e., neutral fat, glycogen, elastin, etc.), and immunohistochemistry with the selection of appropriate stains and panels.

Residents will function effectively as consultants, integrating all of the CanMEDS roles to provide optimal, ethical, and patient-centered medical care.

Residents will establish and maintain clinical knowledge, skills, and attitudes appropriate to their practice.

Residents will integrate clinical, radiological, and other laboratory data to provide the best diagnosis and direct further investigations and therapeutic strategies.

Communicator

- The resident can translate the diagnosis and interpretations into a clear, meaningful, well-formatted pathology report containing all the relevant information that aids in patient management, including requests for additional samples. This also includes discussing the report with the responsible physician for proper interpretation of data and for conveying critical values.
- The resident is able to communicate professionally during Tumor Board and multidisciplinary team meetings.
- The resident can communicate clearly during the reporting of frozen sections. He/she should be able to deal with any discrepancies on the permanent sections and convey them to the clinicians in a professional and skillful manner.
- The resident assists in the continuing education of physicians and other members of the hospital staff by participating in conferences and case presentations.
- The resident acts as a consultant to clinical colleagues on the interpretation and relevance of pathological findings with particular regard to their significance in the management of the patient and assists in further diagnostic studies if samples are insufficient for diagnosis.
• The resident develops rapport, trust, and professional relationships with other physicians and allied health care workers as well as with patients and families (as needed).
• The resident accurately elicits and synthesizes relevant information and perspectives of patients and families, colleagues, and other professionals.
• The resident accurately conveys relevant information and explanations to colleagues and other professionals.
• The resident develops a common understanding of issues and problems with colleagues and other professionals to develop a shared plan of care in the best interests of patients and families.
• The resident conveys effective oral and written information about medical encounters.

Collaborator
• The resident is able to collaborate with other disciplines and colleagues from the clinical side by providing support in patient management, education and training, research, and community health promotion. He/she should be able to display good team spirit and interpersonal skills.
• The resident demonstrates the ability to advise on the appropriateness of obtaining histological and cytological specimens for diagnostic, teaching, and research purposes and to advise on further appropriate investigations.
• The resident contributes effectively to interdisciplinary team activities by participating in interdisciplinary rounds or research activities.
• The resident participates effectively and appropriately in an interprofessional healthcare team.
• The resident works effectively with other health professionals to prevent, negotiate, and resolve interprofessional conflict.
• The resident seeks appropriate consultation from other health professionals, recognizing the limits of their expertise.

Manager
• The resident demonstrates knowledge of the organizational structure of the laboratory and effective skills for dealing with lab employees; familiarity with the current system of data coding, storage, and retrieval of specimens, slides, and tissue blocks; and knowledge of quality assurance and medical audits.
• The resident utilizes time and resources effectively to balance patient care, budget restrictions, professional expectations, and personal life.
• The resident develops general ideas on how to effectively allocate finite resources in health care and health education to optimize patient care and lifelong learning.
• The resident works effectively and efficiently in a medical laboratory organization.
• The resident becomes familiar with quality-control procedures in histology.
• The resident participates in activities that contribute to the effectiveness of healthcare organizations and systems.
• The resident manages his/her practice and career effectively.
• The resident serves in administrative and leadership roles as appropriate.
Health Advocate
- As health advocates, anatomic pathologists should participate in promoting the health of patients as individuals and the health of communities. Pathologists should be able to recognize opportunities for health promotion and disease prevention and try to play an active role in them.
- The resident should try to participate in various volunteer work in nonprofit organizations (e.g., the Saudi Cancer Society, Sanad, Zahra, etc.) to promote, and educate the community about, the importance of screening and early detection of cancer. He/she should be familiar with the role of molecular methods used to screen for familial cancer syndromes.
- The resident will identify important determinants of health pertaining to disease processes that affect patients.
- As a member of an interdisciplinary team of professionals responsible for patient health, the resident will assist in regularly evaluating laboratory practices and test selections to determine that they meet community needs.
- The resident will recognize and reinforce to the public and to the medical profession the essential contribution of laboratory medicine to health.
- The resident will respond to individual patient health needs and issues as part of patient care.
- Residents will respond to the health needs of the communities they serve.
- Residents will identify the determinants of health of the populations they serve.
- Residents will promote the health of individual patients, communities, and populations.
- Residents will acquire appropriate QA/QC knowledge and become aware of their own diagnostic limitations and thresholds to ensure patient safety and accuracy of medical and pathology reports.

Scholar
- An anatomic pathologist should not fall short in demonstrating a conscious commitment to continuous learning as well as to the creation, dissemination, application, and translation of medical knowledge.
- Anatomic pathologists are expected to maintain professionalism through ongoing learning. Because much cutting-edge knowledge in cancer therapy is a result of basic pathology research and studies, it is crucial that the anatomic pathologist integrate new learning into practice after analyzing relevant evidence. He/she should be familiar with the art and principles of critical appraisal and be able to integrate conclusions into practice.
- An anatomic pathologist should be skilled in Medline research using relevant medical search engines and should review the literature as necessary make proper diagnoses.
- An anatomic pathologist should develop and implement a personal strategy for continuing education.
- Anatomic pathologists should apply the principles of critical appraisal to sources of medical information.
- Anatomic pathologists should contribute to the development of new knowledge through research.
• An anatomic pathologist should participate in rounds, conferences, and teaching sessions.
• An anatomic pathologist should maintain and enhance professional activities through ongoing learning.
• An anatomic pathologist should critically evaluate information and its sources and apply this knowledge appropriately to decisions in his/her practice.
• Anatomic pathologists should facilitate the learning of patients, families, students, residents, fellow health professionals, the public, and others as appropriate.
• An anatomic pathologist should contribute to the creation, dissemination, application, and translation of new medical knowledge and practices.

Professional
The anatomic pathologist should abide by the Code of Ethics for Health Care Practitioners published by the SCFHS. He/she will be committed to the health and well-being of individuals and society through ethical practice sourced by both the guidance of Islam and internationally agreed-upon ethics.
Personal standards of behavior should be inspired by manners in Islam, and the anatomic pathologist must strive to develop the best of manners within himself/herself, such as
• truthfulness,
• honesty and integrity,
• humbleness and respect for others,
• patience,
• passion and love, and
• moderation and fairness.

Professionalism is to be practiced toward patients and colleagues alike.

http://www.scfhs.org.sa/Media/OtherPublications/Documents/%d8%a3%d8%ae%d9%84%d8%a7%d9%82%d9%8a%d8%a7%d8%aa%20%d8%a7%d9%84%d9%85%d9%85%d8%a7%d8%b1%d8%b3%20%d8%a7%d9%84%d8%b5%d8%ad%d9%8a.pdf

The senior resident should be able to:
• Deliver the highest quality of care with integrity, honesty, and compassion.
• Practice medicine in an ethical manner, with sensitivity to diversity in patients and co-workers.
• Exhibit appropriate professional behavior and perform duties in a dependable, consistent, and responsible manner.
• Demonstrate a commitment to excellence and ongoing professional development.
• Demonstrate a commitment to patients, the profession, and society through ethical practice.
• Demonstrate a commitment to patients, the profession, and society through participation in profession-led regulation.
• Demonstrate a commitment to physician health and sustainable practice.
CYTOPATHOLOGY ROTATION

Objectives of cytopathology training
The trainee should be able to practice as an independent cytopathologist applying all CanMEDS roles to provide the best and most accurate patient care as outlined below:

- Respond effectively, efficiently, and with sincerity and honesty to consultation requests within or outside his/her institution
- Respect ethical issues arising during patient care
- Organize and prioritize professional duties focusing on patient care
- Acquaint himself/herself with legal issues that may arise from common samples and how to respond to legal testimony

Clinical competencies
Medical Expert
The trainee should be able to integrate all of the CanMEDS roles—for example, utilizing medical knowledge, clinical skills, and a professional attitude to provide patient-centered care.

The trainee should acquire clinical knowledge and skills in the diagnostic cytopathology field from the basic to the advanced level. For example, he/she should do the following:

- Acquire and integrate knowledge of basic cell morphology, histology, physiology, and human anatomy
- Acquire and integrate knowledge of disease pathogenesis and morphology at the cellular, tissue, organ, and body level
- Acquire integrated knowledge of the morphologic changes of disease at the gross, histological, cytological, and ultrastructural level
- Learn all the methods of cytological preparation, which include the following: direct smear preparation, cytospin, conventional Pap smear, liquid-based cytology (thin prep, SurePath), or equivalent methods by different procedures
- Know the different methods of fixation, routine staining, special staining, and immunohistochemical staining
- Be able to read all smears prepared by the methods mentioned above as per standard diagnostic criteria listed in major reference books*
- Be able to describe the findings of light microscopy in perfect, correct, clear, and concise language
- Be familiar with the concept of cell block preparation and its practical uses
- Be able to interpret findings to provide an accurate diagnosis or a perfect differential diagnosis
- Know the advanced ancillary tests, such as molecular tests (namely in situ hybridization [ISH], immunofluorescence, cytogenetic tests, fluorescent in situ hybridization [FISH], and flow cytometry), and how to request and properly interpret them to help provide an accurate diagnosis

Communicator
• The trainee shall issue comprehensive, clear, concise, accurate, and timely cytology reports that include all the relevant data important for patient management and further diagnostic workup.
• The trainee should deliver clear verbal information to the responsible physicians and healthcare workers and also be able to ask clear questions to obtain clinical information helpful for proper interpretation of morphologic data.
• The trainee should be able to use synoptic and SNOMED reporting systems when available and applicable.
• The trainee should recommend or provide advice on further diagnostic measures when relevant.
• The trainee should have the ability to be involved in a professional dialogue for medico-legal cases.
• The trainee should be able to professionally discuss complicated cases, consultations, controversial issues, and discrepancy situations in diagnoses and the handling of samples.
• The trainee should be able to speak in public and give presentations to healthcare professionals in clear language that matches the audience’s level of comprehension.
• The trainee should be able to explain procedures such as fine-needle aspiration cytology to patients and relatives clearly, with an explanation of advantages and disadvantages.
• The trainee should communicate critical results and unexpected findings through appropriate channels in a timely fashion.
• The trainee should communicate clearly during intraoperative consultations.

Collaborator
• Being able to work within a team and be an effective team member
• The trainee should collaborate with all members of the pathology team, including technical and administrative team members, training physicians, and senior colleagues, in order to provide the best service to patients.
• The trainee should maintain a professional attitude when participating with other healthcare members to obtain and provide information needed for the best patient care.
• The trainee should be able to explain the role of the cytologist to all healthcare providers.
• The trainee should be involved in team meetings with other healthcare workers when requested.
• The trainee should respect team ethics and confidentiality.
• The trainee should minimize misunderstandings and maximize team functions to best utilize interpersonal interactions for patient care.
• The trainee should provide time and effort to others when needed for the sake of patient care.

Manager
• The trainee should be able to make decisions about recruitment of human resources, budget allocations, and implementation of quality programs and safety.
MANDATORY ROTATIONS

- The trainee should participate in activities that contribute to the effectiveness of the organization’s healthcare system.
- The trainee should collaborate effectively with other organizations.
- The trainee should identify pre-analytic, analytic, and post-analytic issues that affect quality.
- The trainee should serve in leadership roles.

Health Advocate
- The trainee should use his/her knowledge, skills, and expertise to advance health and well-being within the community.
- The trainee should identify areas for improvement, promotion, disease prevention, and advocacy.
- The trainee should respond to healthcare needs within the community.
- The trainee should update cytology laboratory tests to meet community needs.
- The trainee should increase the community’s awareness of the need for gynecological Pap tests as a screening program and of the importance of molecular confirmatory tests and vaccinations for human papilloma virus.

Scholar
The trainee should practice independent, lifelong learning to stay up to date in all aspects of cytopathology knowledge and skills, apart from helping patients, healthcare workers, and the community to learn and improve their knowledge.

Professional
- The trainee should respect the health and well-being of individuals and society through ethical practice and professionalism.
- The trainee should express commitment to patients, the profession, and society through ethical practice, which includes honesty, integrity, commitment, compassion, respect, and altruism.
- The trainee should practice commitment to the best quality of care.
- The trainee should identify and appropriately respond to ethical issues.
- The trainee should respect patients’ rights and confidentiality.

References for Cytology: Diagnostic principles and clinical correlates. Edmund S. Cibas & Barbara S. Ducatman. Saunders
The curriculum and associated competencies relate principally to “core” (non-elective) training in anatomic pathology. Currently, we do not aim to define specific competencies for advanced training in specific subspecialty areas such as gynecological pathology, breast pathology, or soft tissue pathology. The resident should achieve the general Anatomic Pathology Core Competencies outlined in the surgical pathology rotations in each of the subspecialty areas.

Because individual residency programs show marked variation in the sequence and duration of individual rotations, the scientific committee for the Saudi Board in Anatomic Pathology believes it is neither realistic nor desirable to specify certain diagnoses or defined numbers of cases of a given type as elements of competency. All SCFHS-accredited training programs are already required to provide a caseload both high enough and varied enough to ensure broad training.
MANDATORY ROTATIONS

Renal Pathology Rotation

Medical renal diseases are one of the common pathological entities a general pathologist might face. The main goal of this rotation is for the resident to gain sound knowledge on how to approach and interpret common medical renal diseases and how to interact effectively with the clinical team.

General objectives:
- Achieve diagnostic competence in common pathological features of medical renal diseases
- Recognize self-limitation and seek a second opinion or further investigations when needed
- Be able to generate comprehensive and meaningful reports and to convey messages clearly to the clinical team
- Be familiar with all technical aspects of and procedures for dealing with a kidney biopsy as well as quality assurance in surgical pathology
- Be a self-directed learner and seek continuous medical education

Clinical competencies

Medical expert
- The resident should demonstrate knowledge of normal anatomy, physiology, and histology of the kidney.
- The resident should have in-depth knowledge of the normal gross microscopic and ultrastructural appearance of tissues and cells from the kidney.
- The resident should have knowledge about the pathogenesis and underlying mechanism of renal insult.
- The resident should be able to diagnose common medical renal diseases.
- The resident should have thorough knowledge about renal transplant pathology and the current classifications used.
- The resident should understand the principles of immunofluorescence diagnosis.
- The resident should develop an understanding of the principles of tissue processing and the use and indications of different fixatives and special stains as well as of the technical principles underlying them.
- The resident should know the principles of and indications for ultrastructural diagnosis in renal pathology.
- The resident should be able to simulate a differential diagnosis based on histologic features and architectural changes.
- The resident should organize case-material special stains of deeper sections and additional studies in a timely fashion.
- The resident should be able to generate a final pathology report with a meaningful comment if needed.
Communicator
- The resident communicates effectively and collegially with other pathologists regarding cases.
- The resident participates in multidisciplinary team meetings and contributes to the continuous education of physicians and other team members.
- The resident is able to generate a clear pathology report and communicates findings effectively in both oral and written form.

Collaborator
- The resident contributes effectively to other interdisciplinary team activities.
- The resident is able to render sound advice on how to obtain appropriate histological specimens.

Manager
- The resident appropriately uses resources of the laboratory and the institution.
- The resident allocates finite healthcare resources wisely.
- The resident understands the importance of quality-control and quality-assurance measures for immunohistochemistry stains, including preanalytical, analytical, and postanalytical variables.
- The resident is able to make decisions regarding acceptable versus unnecessary requests for STAT processing of specimens and prioritizes cases according to urgency in a timely fashion.

Health Advocate
See above for surgical pathology competencies.

Scholar
The resident practices independent lifelong learning to stay up to date in obtaining the knowledge and skills of renal pathology diagnostics and also helps others to learn and improve knowledge for patients, the community, and healthcare workers.

Professional
- The resident respects the health and well-being of individuals and society through ethical practice and professionalism.
- The resident expresses commitment to patients, the profession, and society through ethical practice, which includes honesty, integrity, commitment, compassion, respect, and altruism.
- The resident practices commitment to the best quality of care.
- The resident responds quickly to urgent requests and night calls.
- The resident identifies and appropriately responds to ethical issues.
- The resident respects patients’ rights and confidentiality.
Dermatology Rotation

Medical Expert
- The resident demonstrates knowledge of the histology and embryology of the skin and adnexal structures.
- The resident is aware of the different types of skin biopsies and knows how each specimen is processed.
- The resident acquires sufficient knowledge of the interpretation of skin biopsies of inflammatory and neoplastic conditions.
- The resident has thorough knowledge of the interpretation of skin excisions for melanoma and sentinel node biopsies and is able to prepare reports conveying appropriate information to clinicians.
- The resident has thorough knowledge of the interpretation of skin excisions for other neoplastic skin lesions and is able to prepare reports conveying appropriate information to clinicians.
- The resident is able to recognize inflammatory skin conditions that might require clinico-pathological correlation.
- The resident is able to provide a logical interpretation during intraoperative consultation.

Communicator
- The resident communicates effectively and collegially with other pathologists regarding cases.
- The resident participates in multidisciplinary team meetings and contributes to the continuous education of physicians and other team members.
- The resident is able to generate a clear pathology report and to communicate findings effectively in either oral or written form.

Collaborator
- The resident contributes effectively with other interdisciplinary team members.
- The resident is able to render sound advice on how to obtain appropriate histological specimens.

Manager
- The resident appropriately uses resources of the laboratory and the institution.
- The resident allocates finite healthcare resources wisely.
- The resident understands the importance of quality-control and quality-assurance measures for immunohistochemistry stains, including preanalytical, analytical, and postanalytical variables.

Health Advocate
See above in surgical pathology competencies.
Scholar
The resident practices independent lifelong learning to stay up to date in all aspects of dermatopathology knowledge and skills, helps others learn, and improves patients’ community’s, and healthcare workers’ knowledge.

Professional
• The resident respects the health and well-being of individuals and society through ethical practice and professionalism.
• The resident expresses commitment to patients, the profession, and society through ethical practice, which includes honesty, integrity, commitment, compassion, respect, and altruism.
• The resident practices commitment to the best quality of care.
• The resident identifies and appropriately responds to ethical issues.
• The resident respects patients’ rights and confidentiality.
• The resident recognizes limitations and seeks help when needed.

Neuropathology Rotation

Outline of Rotation
For a subspecialty rotation, the trainee should participate in four months of rotation with a neuropathologist in the last two years, during which he/she should achieve the CanMEDS competencies mentioned in the objectives of the anatomic surgical pathology section. He/she must adhere to the following:
• In the first two weeks of the rotation, the resident should review the neuro-histology and anatomy from the recommended educational references.
• The trainee will attend to the frozen sections, the grossing of the specimens, and signing out the cases, including brain, nerve, and muscle biopsies, with the neuropathologist starting on the first day of the rotation.
• The resident will be able to prepare complete reports for the cases.
• The resident is expected to review the teaching cases and other available teaching material during this rotation.

A brain autopsy is typically done during the autopsy rotation.

Clinical competencies
Medical Expert
• The resident should have comprehensive knowledge about gross findings of the brain and spinal cord.
• The resident should acquire sufficient microscopic knowledge of the nervous system.
• The resident should know the current classification and criteria of tumors of the nervous system.
• The resident should have good knowledge of inflammatory, infectious, and benign diseases of the nervous system.
The resident should be aware of the appropriate use of basic histologic techniques, including immunohistochemistry and electron microscopy, in the examination of the nervous system.

The resident should be able to handle neurosurgical specimens for frozen sections and preparation of smears and interpret these techniques to render a verbal diagnosis.

The resident should recognize the limits of his/her expertise and seek appropriate consultation from other health professionals.

**Communicator**

- The resident should communicate effectively and collegially with other pathologists regarding cases.
- The resident should participate in multidisciplinary team meetings and contribute to the continuous education of physicians and other team members.
- The resident should be able to generate a clear pathology report and communicate findings effectively in either oral or written form.

**Collaborator**

- The resident should contribute effectively to interdisciplinary team activities.
- The resident should render sound advice on how to obtain appropriate histological specimens.

**Manager**

- The resident should appropriately use resources of the laboratory and the institution.
- The resident should allocate finite healthcare resources wisely.
- The resident should understand the importance of quality-control and quality-assurance measures for immunohistochemistry stains, including preanalytical, analytical, and postanalytical variables.

**Health Advocate**

See above in surgical pathology competencies.

**Scholar**

The resident should practice independent lifelong learning to stay up to date in all aspects of neuropathology knowledge and skills, help others learn, and improve patients’ knowledge, the community’s, and healthcare workers’ knowledge.
MANDATORY ROTATIONS

Professional
- The resident should respect the health and well-being of individuals and society through ethical practice and professionalism.
- The resident should express commitment to patients, the profession, and society through ethical practice, which includes honesty, integrity, commitment, compassion, respect, and altruism.
- The resident should practice commitment to the best quality of care.
- The resident should respond quickly to urgent requests and night calls.
- The resident should know his/her own limitations and seek help when in need.
- The resident should identify and appropriately respond to ethical issues.
- The resident should respect patients’ rights and confidentiality.

Hematopathology Rotation

Outline of Rotation
The lymph node pathology block will take place over a continuous four-week period or a separated six-month rotation.
The resident will develop a practical approach to assessing lymph node pathology and will become familiar with the use of ancillary tests (including flow cytometry, fluorescence, in situ hybridization, and molecular diagnostic testing) in facilitating the diagnosis of lymphoma. The resident will be actively involved in ordering ancillary tests and generating final reports under the supervision of staff pathologists. Archival lymphoma cases on file as well as pathologists’ teaching files are readily available for study. The trainee will learn the up-to-date classifications of neoplastic lesions and the various non-neoplastic lesions and pitfalls.

At the completion of training, the resident will:
- Understand normal histology of various solid lymphoreticular organs including lymph nodes, the spleen, bone marrow, and the thymus.
- Understand the basis of the current WHO classification system of hematopoietic neoplasms and how it has evolved.
- Know the key pathologic and clinical features of the major lymphoma entities, including Hodgkin lymphoma, small lymphocytic lymphoma / chronic lymphocytic leukemia, lymphoplasmacytic lymphoma, marginal zone lymphoma, mantle cell lymphoma, follicular lymphoma, diffuse large cell lymphoma, lymphoblastic lymphoma, Burkitt/Burkitt-like lymphoma, and peripheral T-cell lymphoma, among others.
- Be familiar with the role of immunophenotyping by flow cytometry and immunohistochemistry in establishing a definitive diagnosis of these lymphomas.
- Understand the role of molecular diagnostic techniques in establishing a definitive diagnosis of lymphoma (also see the “molecular diagnostics” section).
Clinical competencies

Medical Expert

- The resident should develop and demonstrate an ability to accurately diagnose lymphoproliferative disorders in a variety of organ systems.
- The resident should gain sufficient knowledge about the gross and light microscopic appearance of lymph nodes and other lymphoreticular systems.
- The resident should obtain all relevant clinical and radiological information and apply it to a diagnostic approach.
- The resident should be well aware of the major pitfalls in lymphoma pathology and how to work up those cases.
- The resident should be aware of limitations due to limited sample size, poor fixation, or crushing artifact when rendering diagnoses.
- The resident should have adequate knowledge of the use of ancillary techniques such as immunohistochemistry, flow cytometry, molecular gene rearrangement, and FISH.
- The resident should act as an effective consultant pathologist for external cases sent for consultation or secondary review.

Communicator

- The resident should be able to communicate effectively with medical colleagues including technologists, oncologists, radiologists, and coordinators.
- The resident should be able to clearly request further special and ancillary studies.
- The resident should participate in lymphoma rounds with the supervision of the consultant pathologist.
- The resident should prepare a pathology report with a clear diagnosis and be able to write clear comments or further recommendations if needed.

Collaborator

- The resident should contribute effectively to interdisciplinary team activities by participating in interdisciplinary rounds or research activities.
- The resident should participate effectively and appropriately in an interprofessional healthcare team.
- The resident should work effectively with other health professionals to prevent, negotiate, and resolve interprofessional conflict.
- The resident should recognize the limits of his/her expertise and seek appropriate consultation from other health professionals.
- The resident should efficiently work up referrals or outside consultation cases. Effectively and efficiently make use of the limited diagnostic material available to make a definitive diagnosis and convey the result in a clear and timely manner.
Manager
- The resident works well with fellow colleague residents and technologists as well as pathologists and clinical colleagues in arriving at a diagnosis.
- The resident is able to troubleshoot any problems related to quality assurance and quality control in laboratory operations specifically related to immunohistochemistry.

Health Advocate
- The resident promotes the technological advances that play an important role in lymphoma diagnosis and strives to introduce relevant new technologies locally.
- The resident helps establish outreach programs and provides assistance for referral centers to facilitate accurate diagnoses and better management.

Scholar
- The resident is committed to a personal continuing educational strategy to keep up to date with new classifications, diagnostic criteria, and developments.
- The resident critically evaluates information and its sources and applies this appropriately to decisions in his/her practice.
- The resident facilitates the learning of patients, families, students, residents, other health professionals, the public, and others as appropriate.
- The resident contributes to the creation, dissemination, application, and translation of new medical knowledge and practices.

Professional
- The resident delivers care of the highest quality with integrity, honesty, and compassion.
- The resident demonstrates the maturity and responsibility expected of all professionals.
- The resident exhibits appropriate personal and interpersonal professional behavior.
- The resident responds quickly to urgent requests and night calls.
- The resident knows his/her own limitations and seeks help when in need.
- The resident practices medicine that is ethically consistent with Islam and the obligations of a physician.

Autopsy Rotation

Postmortem pathology
Postmortem pathology is a subspecialty of anatomic pathology that focuses on the diagnosis, management, and prevention of disease, trauma, and poisoning of the human body at the postmortem phase. Therefore, the term postmortem human care management is preferred. The role of the pathologist incorporates the formulation of an opinion regarding the identification, cause, and manner of human death, taking into consideration the history and autopsy findings with a possible medicolegal scope.
Postmortem human care management includes all medical issues after human death, including (but not limited to) ethics, law, professionalism, forensic medicine, community safety, community interest, and research. The end goal of the pathologist is postmortem human care management as a whole.

The current authorizing body for postmortem human care management in Saudi Arabia is the Bureau of Investigation and Public Prosecution (BIP). Therefore, BIP functions as a coroner.

**Requirements**
- At least PGY3 prior to starting the one-month-long rotation.
- The hosting facility must provide optimal, internationally accepted standard precautions including (but not limited to) scrubs, surgical gowns, plastic aprons, hair nets, eye shields, face masks, cut-proof gloves, and latex and latex-free gloves.
- All vaccinations should be up to date.
- At least one complete postmortem report must be completed in a timely fashion, pending any ancillary investigations.
- The resident must attend the postmortem pathology course provided by the Anatomic Pathology program and conducted and delivered by a consultant pathologist licensed by SCFHS with at least one year of post-pathology board training in postmortem pathology and recognized by the AP program as a qualified supervisor.
- The resident must dress professionally according to SCFHS regulations and display identification at all times.
- The resident must never share sensitive information gained during the rotation with colleagues or the public.
- The resident should always begin cases when a consultant pathologist (or someone authorized by the local authority at the level of consultant) is present in the autopsy suite. (Never begin any case without the presence of a consultant.)
- The resident should always continue cases when at least a board-certified pathologist (or someone authorized by the local authority at the level of a fellow) is present.

**Evaluation**
- Daily evaluation should be conducted by a host-institute consultant present at the autopsy.
- The end-of-rotation presentation should be evaluated by a consultant pathologist licensed by SCFHS with at least one year of post-pathology board training in postmortem pathology and recognized by the AP program as a qualified supervisor.
- Exams should be completed as dictated by the AP program.

**Clinical competencies**

**Medical Expert**
- The resident should understand the history of postmortem pathology in Saudi Arabia.
- The resident should understand the history of postmortem pathology internationally.
- The resident should recognize the ethics of postmortem pathology.
- The resident should recognize the different authorization systems.
MANDATORY ROTATIONS

- The resident should understand the authorization process in Saudi Arabia.
- The resident should understand the authorization process internationally.
- The resident should recognize notifiable/reportable cases locally and compare them to international standards, including motives and benefits of each category.
- The resident should recognize the difference between a forensic and a hospital autopsy locally and compared to international standards.
- The resident should comprehend the role of the pathologist in human death management, including identification, cause, and manner of death.
- The resident should realize the pathologist’s role in recommending prevention of trauma, poisoning, and disease.
- The resident should recognize the value, techniques, and theory of death-scene investigation.
- The resident should recognize the various tools available for identification of human remains.
- The resident should recognize the various collaborative specialties and their role in postmortem management, including forensic sciences, healthcare specialties, others.
- The resident should recognize the various collaborative specialties and their role in postmortem management, including officers dealing with law enforcement, public safety, military officers, and others.
- The resident should recognize the various collaborative specialties and their role in postmortem management, including employees dealing with matters concerning justice, health, and social services.
- The resident should recognize the value and techniques of external examination.
- The resident should recognize the various techniques of autopsy.
- The resident should recognize the value and techniques of the internal examination, including autopsy, limited autopsy, region-specified autopsy, organ-specified autopsy, biopsy, and medical imaging.
- The resident should realize when to optimally perform studies such as histology, cytology, electron microscopy, microbiology and virology, toxicology, neuropathology, medical imaging, metabolic and genetic tests, and others.
- The resident should realize when to order, as well as optimal techniques to collect samples for, microbiology, virology, toxicology, neuropathology, metabolic, and genetic tests and trace evidence.
- The resident should recognize the optimal way to certify cause and manner.
- The resident should understand the concepts of cause, manner, and mechanism of death.

Communicator

- The resident should be able to establish a professional bond with the family of the deceased and with the community.
- The resident should demonstrate the use of various types of communication (verbal, written, and others) and know when each is required.
- The resident should exhibit understanding that the family of the deceased needs effective, timely, clear, and accurate communication.
• The resident should establish the ability to use the postmortem report as a tool of communication.
• The resident should reveal the ability to work comfortably with a community composed of various races, ethnicities, educational and cultural backgrounds, and religious and personal beliefs regarding death, cadavers, postmortem management, and after-life.
• The resident should realize how various autopsy techniques may be used and their impact on the body, how the body is released, and the beliefs and feelings of relatives of the deceased.

Collaborator
• The resident should reveal effective skills to participate in a professional environment as part of a multidisciplinary team with the shared goal of postmortem human care management.
• The resident should develop skills to optimally reach scientific goals with a diverse team of people who have various racial, cultural, religious, and personal beliefs regarding death, cadavers, postmortem management, and after-life.
• The resident should demonstrate a respectful attitude toward other colleagues and members of the professional team.
• The resident should work with other professionals to prevent conflicts.
• The resident should use collaborative negotiation to resolve conflicts.
• The resident should respect differences, misunderstandings, and limitations of other professionals.
• The resident should acquire skills to establish a professional bond with the team staff, collaborative professionals, learners, and the community.
• The resident should demonstrate the ability to use various types of communication (verbal, written, and others) and to know when each is required.
• The resident should meet the need for effective, timely, clear, and accurate communication and understand the different requirements of various agencies and professionals.
• The resident should establish the ability to use the postmortem report as a communication tool.

Manager
• The resident should demonstrate understanding of and familiarity with the management structure of both the authorizing body and the laboratory as well as the relationship between them.
• The resident should recognize the leadership role of the pathologist as the center of postmortem human care management.
• The resident should understand the principles of workload requirements and time management.
• The resident should demonstrate knowledge of laboratory safety for all personnel.
• The resident should understand the principles of laboratory information systems.
• The resident should understand the principles of quality assurance, quality control, and quality improvement as it pertains to postmortem pathology.
MANDATORY ROTATIONS

- The resident should have knowledge of regulations pertaining to the storage of the human body, organs, tissue, tissue blocks, slides, and reports.
- The resident should be familiar with legislation about medicolegal issues, abide by it, and guide other staff to do so.

Health Advocate
- The resident should understand and demonstrate the role of the pathologist in providing accurate information pertaining to public health issues, particularly related to injury, poisons, and disease (infectious disease, hereditary disease, environment- and occupation-related injury and disease, death patterns, mass fatalities, custody deaths, judicial deaths, perinatal and infancy deaths, maternal deaths, deaths due to a specific disease, etc.).
- The resident should act as a health advocate by understanding and demonstrating all necessary safety precautions for himself/herself and for the team in the autopsy room, at the death scene, and in the laboratory and office.
- The resident should recognize and demonstrate how postmortem pathology can promote the health of the population.

Scholar
- The resident should recognize the importance of a scholar.
- The resident should recognize the importance of research and continuous medical education.
- The resident should demonstrate knowledge of basic and clinical research and special research techniques.
- The resident should demonstrate the ability to objectively record results and prepare research proposals and manuscripts.
- The resident should recognize personal gaps in knowledge and how to remedy them.
- The resident should demonstrate the ability to ask appropriate questions and access appropriate resources and references.
- The resident should recognize both planned and opportunistic methods of learning.
- The resident should demonstrate effective personal time management with regard to maximizing educational opportunities.
- The resident should be capable of self-directed study using appropriate texts and information sources.
- The resident should demonstrate the ability to mentor others and share learned information with both healthcare and non-healthcare personnel, each at their level of understanding.
- The resident should be knowledgeable about the use of virtual libraries and online resources.
MANDATORY ROTATIONS

Professional

- The resident should demonstrate concern and respect for others and sensitivity to gender, culture, and ethnicity issues with peers, supervisors, healthcare personnel, and non-healthcare personnel.
- The resident should exhibit an ethical approach to the performance of duties at the death scene, office, autopsy suite, and laboratory.
- The resident should recognize limitations and seek assistance when required.
- The resident should demonstrate a collegial manner at all times.
- The resident should solicit cooperation and should volunteer his/her assistance.
- The resident should recognize professional limits and seek advice and assistance from appropriate individuals in a timely manner.
- The resident should respond appropriately to criticism.
- The resident should demonstrate punctuality.
- The resident should complete tasks in a timely manner.
- The resident should act as a model of professionalism for juniors and the public at the workplace and in the community.
- The resident should demonstrate an example of competency, integrity, and honesty.
- The resident should respect confidentiality regarding any information obtained as a result of his/her occupation.

**Note:** This rotation has been on hold since 2011. Residents who can afford to study abroad on their own are encouraged to do so. However, forensic rotation for one month within the Kingdom is mandatory and is to be organized by the chair of the local committee.
MANDATORY ROTATIONS

Molecular Pathology and Cytogenetics/FISH Rotation

<table>
<thead>
<tr>
<th>Division</th>
<th>Week no.</th>
<th>Technique</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Genetics</td>
<td>Week 1</td>
<td>- DNA/RNA Extraction from Blood and from Paraffin-Embedded Tissue</td>
<td>The resident will review the principles of medical genetics and be familiar with the principles of cell division, nondisjunction error, imprinting, mutation, and chromosome structure. In addition, he/she will understand the principles and techniques involved in molecular genetics, molecular oncology, and molecular detection of infectious diseases.</td>
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<tr>
<td></td>
<td></td>
<td>- PCR</td>
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<td>- Gel Electrophoresis and Documentation</td>
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<td>- Reverse Transcriptase PCR (RT-PCR)</td>
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<tr>
<td>Cytogenetics &amp; FISH</td>
<td>Week 2</td>
<td>- Real-Time PCR</td>
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<td>- Southern Blot</td>
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<td>- Sanger Sequencer</td>
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<td>- Screening with SSCP/ DNA HPLC</td>
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<td></td>
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<td>- Fluorescence In Situ Hybridization (FISH)</td>
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</tbody>
</table>

Note: Each supervisor should ensure that all RS residents have done this rotation during their senior years (Years 3, 4, and 5) before the exit exam.

Objectives

- To gain an understanding of basic molecular biology techniques in molecular pathology
- To grasp comprehensive knowledge of principles and concepts of the molecular basis of disease by this stage; the rotation will aim to reinforce the clinical use of this knowledge.
- To understand the molecular biomarkers in diagnosis, prognosis, prediction, therapy, and monitoring of diseases.
- To understand the various indications of molecular testing in disease processes
- To appreciate the role of the pathologist in molecular testing
MANDATORY ROTATIONS

- To have a general understanding of quality control/assurance and total quality management in molecular testing
- To participate in didactic lectures in molecular pathology and cytogenetics/FISH; these are to be arranged by the chair of the local committee either in the resident’s academic half day or as short courses/workshops (see Appendix for examples)
- To give one case presentation or topic presentation discussing the importance of molecular pathology with a description of the technique and methodology

Clinical competencies

Medical Expert
- The resident should be able to choose the best formalin-fixed paraffin-embedded (FFPE) block for molecular testing and to choose the area of maximum yield of tumor cells on H and E sections.
- The resident should develop and maintain basic and clinical knowledge of molecular pathogenesis and disease processes.
- The resident should become familiar with the principles of polymerase chain reaction (PCR), sequencing, electrophoresis, instrumentation, data processing, and software analysis.

Communicator
- The resident should take the opportunity to educate colleagues and members of the multidisciplinary team during clinicopathological conferences and presentations on issues related to genetics, molecular biology, and genomics.
- The resident should be part of patient management by advising clinicians when needed about the indications, interpretations, and clinical utility of molecular assays and about molecular aspects of diseases.
- The resident should communicate with requesting physicians to advise them on the appropriate use of molecular diagnostic and cytogenetic methods.

Collaborator
- The resident should communicate with requesting physicians to advise them on the appropriate use of molecular diagnostic and cytogenetic methods.
- The resident should facilitate the requests of clinicians when ordering particular tests vital for patient management.
MANDATORY ROTATIONS

Manager
- The resident should understand issues of quality control, quality improvement, risk, cost-effectiveness, and laboratory management as they specifically relate to molecular pathology and cytogenetics.
- The resident should be familiar with quality management and quality essentials in molecular pathology.

Health Advocate
- The resident should engage health professionals and the medical community in determining appropriate laboratory use of molecular testing to advance health care.
- The resident should recognize advances in molecular biology that can be applied to molecular diagnostics to increase efficiency and enhance diagnostic techniques.

Scholar
- The resident should be committed to a personal strategy of continuing education.
- The resident should be up to date with the rapidly developing field of molecular genetics and genomics and its application to laboratory diagnostics.
- The resident should be able to search the scientific literature to critically assess the development of new tests in molecular pathology and cytogenetics.

Professional
- The resident should deliver the highest standard of care with integrity, honesty, and compassion and should execute duties in an ethical manner and with sensitivity to a diverse patient population.
- The resident should exhibit appropriate professional behavior and should practice medicine in a dependable and responsible manner.
- The resident should demonstrate a commitment to excellence and ongoing professional development.
- The resident should demonstrate a commitment to patients, the profession, and society through ethical practice and through participation in profession-led regulation.
- The resident should demonstrate a commitment to physician health and sustainable practice.
Research Rotation

Objectives

• Anatomic pathology residents are required to complete a two-month rotation with a certified researcher or in a recognized research department or facility during the third year of training. The purpose of this rotation is to expand the resident’s knowledge base and research skills, to increase his/her understanding of basic science and basic pathology, and to enhance his/her interpretation of statistical data. During this rotation, the resident should be able to create and initiate a minimum of two research ideas and to conduct research projects during his/her training years.

• The resident is advised to read and understand the SCFHS publication “Introduction to Clinical Research for Residents.”.


Clinical Competencies

Medical Expert

• The resident should be able to generate research ideas in relation to pathology.

• The resident should be able to choose and design a research project in an optimized way.

• The resident should be able to read and interpret statistical data.

• The resident should be able to conduct a literature search.

• The resident should know how to write a paper.

• The resident should be able to read, interpret, and critique articles.

• The resident should conduct a computerized literature search using Medline, PubMed, or an equivalent method.

• The resident should select the appropriate study design with which to answer his/her question.

Communicator

• Upon conclusion of the project, the resident should present it as grand rounds or during an academic or research day.

• The resident should write a scientific abstract for potential submission to a regional or national research meeting.

Collaborator

The resident should be able to work with other team members from different specialties on a combined project.
Health Advocate
The resident should advocate for research to promote the understanding of various disease processes or means of delivering care.

Manager
The resident should understand the cost of research and be able to set a budget plan.

Scholar
- The resident should compare his/her data to those previously collected and determine differences.
- The resident should try to hypothesize reasons for similarities or differences in his/her study.

Professional
- When performing research, the resident should respect patients’ privacy with respect to medical information.
- The resident should understand the function of an Institutional Review Board (IRB) and how it serves to protect patients.
- The resident should be knowledgeable about research ethics and when to obtain patient consent.


The resident should be honest when reporting data.

Other Subspecialty Rotations
These rotations might be incorporated into the surgical pathology rotations or be taken as separate rotations, depending on the hospital in which the resident is rotating. These include but are not limited to:

- Endocrine, head and neck
- Soft tissue and bone
- Pulmonary and CVS
- Breast/gynecology
- Liver pathology
- Male urogenital
- Pediatric pathology
ELECTIVE TRAINING OUTSIDE THE KINGDOM

Elective training outside the Kingdom is permissible under the following regulations:

- The resident should be in the third or fourth year of training.
- Training is allowed for six continuous months or might be split it into a maximum of two rotations.
- An application along with the acceptance letter from the institute should be submitted six months before the start of the next academic year.
- A confidential sealed and stamped evaluation by the resident’s supervisor in the institute abroad should be provided.
- Please note that if the elective rotation was done in a subspecialty domain (as in Table 1), then this period will be deducted from the resident’s training period in that particular domain.
Program rotations and diagnostic experience

Residents will rotate through different hospitals, as arranged by the local supervising committee. During each rotation, the resident will gain unique experience in patient diagnosis and care in regard to diagnostic pathology.

Service and Duties

- These should compose a significant part of the resident’s development and education.
- Sufficient time during which supervising consultants can teach and advise trainees must always be made available during the performance of these duties.
- The trainee should be able to conduct the routine grossing or FNA procedures carried out during a specific rotation set by the department.
- Senior trainees may supervise the junior residents in carrying out their duties under the direct supervision of the consultant.
- During each rotation, the trainee should gain the maximum benefit and meet the rotation goals and objectives.
- Each resident must choose a minimum of one case and present it as a case presentation.
- Each resident must present a minimum of one journal club/article.

Please refer to the section on teaching and academic activity for further details and guidelines for conducting a journal club presentation.
<table>
<thead>
<tr>
<th>Resident Evaluation by Faculty</th>
<th>Overall Performance</th>
<th>Failed to meet expectations:</th>
<th>Inconsistently met expectations:</th>
<th>Consistently met expectations:</th>
<th>Sometimes exceeded expectations:</th>
<th>Exceeded expectations:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>- Consistently absent from work</td>
<td>- Several unexcused absences during rotation</td>
<td>- Was punctual for work and arrived prepared</td>
<td>- Substantially contributed to efficient team functioning</td>
<td>- Successfully integrated clinicopathological information to generate complete and accurate surgical pathology reports</td>
</tr>
<tr>
<td>Overall performance compared to others at same PGY level linked to ITER ratings</td>
<td></td>
<td>- Consistently negative attitude</td>
<td>- Clear lack of interest in subject matter</td>
<td>- Was receptive to feedback and consistently pleasant to all colleagues</td>
<td>- Was capable of timely generation of complete surgical pathology reports</td>
<td>- Communicated well with both pathology and clinical colleagues</td>
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<tr>
<td></td>
<td></td>
<td>- Failure to respond to feedback</td>
<td>- Inability to improve despite mid-rotation feedback</td>
<td>- Showed active desire to improve</td>
<td>- Demonstrated baseline medical knowledge and diagnostic ability greater than expected for level of training</td>
<td>- Ready to practice surgical pathology independently</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Baseline knowledge and/or diagnostic ability significantly below expectations for level of training</td>
<td>- Severe deficits in baseline knowledge and diagnostic ability</td>
<td>- Demonstrated the expected level of baseline medical knowledge and diagnostic ability</td>
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</tbody>
</table>

MILESTONES IN SURGICAL PATHOLOGY R 1-5
<table>
<thead>
<tr>
<th>Primary Competency (AP Milestone Identifier) &amp; Title</th>
<th>Scholar/Medical Expert</th>
<th>Medical Expert</th>
<th>Surgical pathology grossing</th>
</tr>
</thead>
<tbody>
<tr>
<td>R1</td>
<td>Is capable of searching for and finding written and published resources for learning g in pathology</td>
<td>Is able to independently perform literature review and apply it toward patient care</td>
<td>Correctly describes and appropriately samples most surgical pathology specimens</td>
</tr>
<tr>
<td>R2</td>
<td>Has acquired a moderate amount of textbook knowledge of pathology</td>
<td>Applies principles of grossing to newly encountered specimen types</td>
<td>Dictates complete, logical, and succinct gross descriptions</td>
</tr>
<tr>
<td>R3</td>
<td>Correctly describes and appropriately samples common surgical specimens including necessary tissues for ancillary studies in correct media/fixative</td>
<td>Correctly describes and appropriately samples all specimen types</td>
<td>Discusses the reasons for IOC/FS with the surgeon</td>
</tr>
<tr>
<td>R4</td>
<td>Is dedicated to continuous medical education and literature review</td>
<td>Participates in educating others</td>
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<tr>
<td>R5</td>
<td>Demonstrates competency across a range of complex specimens</td>
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<tr>
<td>Primary Competency (AP Milestone Identifier) &amp; Title</td>
<td>R1</td>
<td>R2</td>
<td>R3</td>
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<tr>
<td>Ensures and maintains the integrity of specimens to avoid cross-contamination or identity mix-up</td>
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<tr>
<td>Understands common surgical procedures that may need potential intra-operative consultation / frozen sections (IOC/FS)</td>
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<tr>
<td>Knows the technical aspects of the performance of frozen sections</td>
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<tr>
<td>Is aware of indications and contraindications for IOC/FS</td>
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<tr>
<td>Is able to perform high-quality IOC/FS on technically difficult and/or multiple specimens</td>
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<td>Effectively communicates the diagnosis and is aware of the impact of diagnosis</td>
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<tr>
<td>Is able to perform a gross description prior to sampling the specimen</td>
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<tr>
<td>Is proficient in the performance and interpretation of IOC/FS</td>
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<tr>
<td>Is able to manage competing tasks, especially in time-sensitive situations</td>
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</table>

**Medical Expert**

**Intraoperative consultation/Frozen sections**
<table>
<thead>
<tr>
<th>Primary Competency (AP Milestone Identifier) &amp; Title</th>
<th>R1</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
<th>R5</th>
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<tbody>
<tr>
<td>Medical Expert</td>
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<tr>
<td>Microscopic diagnostic practice</td>
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<td>Recognizes normal anatomy and histology</td>
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<td>Distinguishes normal from abnormal histology and recognizes confounding factors (e.g., tissue artefacts and processing and sampling issues)</td>
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<tr>
<td>Understands what information needs to be conveyed to the surgeon following IOC/FS</td>
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<td>Consistently recognizes and correctly identifies the most common histopathologic findings</td>
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<td>Begins to make connections between clinical differential diagnoses and gross and microscopic pathologic findings</td>
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<tr>
<td>Consistently recognizes and correctly identifies common and some rare histopathologic findings</td>
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<tr>
<td>Correlates the clinical differential diagnosis with gross and microscopic pathologic findings</td>
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<td>Makes accurate diagnoses reliably</td>
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<td>Appreciates the nuances of diseases and is able to independently troubleshoot confounding factors</td>
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<tr>
<td>Is able to troubleshoot confounding factors with assistance</td>
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<tr>
<td>Is aware of what microscopic findings warrant going back to the gross specimen</td>
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<td>Analyzes complex cases, integrates literature, and reviews clinically relevant information</td>
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<tr>
<td>Is proficient in interpretation with</td>
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<td>Primary Competency (AP Milestone Identifier) &amp; Title</td>
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<td>R5</td>
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<tr>
<td>Medical Expert/Communicator/Health Advocate: Reporting</td>
<td>Is familiar with the essential elements of a pathology report</td>
<td>Is able to write a preliminary report before the sign-out session</td>
<td>Can generate a complete report of common specimens</td>
<td>Can generate a complete report of all specimens and includes synoptic reporting when necessary</td>
<td>Is able to convey equivocal findings or atypical findings in a clear and proper manner that is comprehensible to the clinical colleague</td>
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<td></td>
<td>Can make sure that the report reviewed is accurate</td>
<td>Is becoming familiar with synoptic reporting</td>
<td>Knows how and when to use synoptic reporting and understands its relevance</td>
<td>Manages to generate reasonable comments to convey difficult issues or dilemmas to clinical colleagues</td>
<td>Knows how to write clear comments and may suggest or recommend further biopsies or investigations when needed in a collegial manner</td>
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<td>Resects time frames and deadlines and is able to handle the cases in a timely fashion</td>
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<td>Recognizes when to be clear and firm on a diagnosis</td>
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<td>Recognizes that some diagnoses cannot be decisive due to limitations and is able to convey this clearly in his/her report to the team as well as colleagues</td>
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<td>Primary Competency (AP Milestone Identifier) &amp; Title</td>
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<tr>
<td>Manger/Leader Time management</td>
<td>Comprehends the need for efficiency in grossing and reviewing the slides with the pathologist in a timely manner</td>
<td>Is able to review selected cases from the workload and attempts to write preliminary reports in a timely fashion</td>
<td>Shows increasing efficiency in grossing specimens, previewing slides, and writing reports</td>
<td>Can completely gross and review slides while on a busy service and drafts a full pathology report before the sign-out session with the pathologist</td>
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<tr>
<td>Manager/Leader and Health Advocate Lab management: Test utilization</td>
<td>Is aware of the different tests, immunohistochemical assays, and other ancillary studies available in anatomic pathology</td>
<td>Has a general concept of how to order tests while being conscious of resources</td>
<td>Is familiar with synoptic reporting</td>
<td>Is able to efficiently gross and review all cases and finds time to teach junior residents</td>
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<td></td>
<td>Is starting to understand ordering practices and is aware of appropriate and inappropriate ordering</td>
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<td>Manages to organize the workflow to assist junior residents if needed</td>
<td>Realizes the importance of turnaround time and its implications for patient management</td>
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<td>Suggests an appropriate panel of ancillary tests without wasting resources</td>
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<td>May make a judgment on which tests to order in a stepwise manner while taking the differential diagnosis into account and is able to justify those tests</td>
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<td></td>
<td>Takes quality-assurance deficits into account</td>
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<td>Primary Competency (AP Milestone Identifier) &amp; Title</td>
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<tr>
<td><strong>Communicator / Collaborator</strong></td>
<td><strong>Inter-departmental and clinical team interactions</strong></td>
<td>Realizes the importance of clinical history and findings in formulating a reasonable differential diagnosis and final diagnosis</td>
<td>Under the supervision of the attending pathologist, observes and is able to actively interact with radiologists, physicians, and surgeons to obtain further history or further information regarding a specimen</td>
<td>Is able to interpret pathology reports efficiently and to discuss findings with clinical colleagues</td>
<td>Performs root-cause analysis for ambiguous and uncertain results and suggests methods to overcome them</td>
</tr>
<tr>
<td><strong>Communicator / Collaborator</strong></td>
<td><strong>Multidisciplinary conferences</strong></td>
<td>Appreciates the pathologist’s role in patient management</td>
<td>Recognizes the importance of multidisciplinary conferences (MDC) in making an accurate diagnosis, and therefore, in patient care</td>
<td>Tries to attend the MDC</td>
<td>Actively participates in the MDC</td>
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<tr>
<td>Professionalism (Honesty, integrity, ethical behavior, respect, compassion, and empathy)</td>
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<tr>
<td>Develops a solid rapport with clinicians and is able to communicate with them clearly and collegially in a respectful manner</td>
<td>Is always truthful and is aware of ethical behavior</td>
<td>Is always truthful and owns up to any personal mistakes and errors</td>
<td>Is able to discuss various errors with other members of the healthcare system in a professional manner</td>
<td>Is able to discuss various errors with other members of the healthcare system in a professional manner</td>
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</tr>
<tr>
<td>Seeks guidance or advice when in need</td>
<td>Demonstrates ethical behavior</td>
<td>Demonstrates ethical behavior</td>
<td>Demonstrates ethical behavior</td>
<td>Demonstrates ethical behavior</td>
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<tr>
<td>Accepts criticism or guidance during counseling for possible misbehavior</td>
<td>Practices with respect, compassion, and empathy</td>
<td>Practices with respect, compassion, and empathy</td>
<td>Practices with respect, compassion, and empathy</td>
<td>Practices with respect, compassion, and empathy</td>
<td></td>
</tr>
<tr>
<td>Has a basic understanding of respect, compassion, and empathy</td>
<td>Finishes tasks on time (grossing, sign-out)</td>
<td>Completes tasks in a timely manner</td>
<td>Is dependable and can foresee the team’s needs</td>
<td>Foresees the team’s needs and takes a leadership position to deal with them</td>
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<tr>
<td>Responsibility and follow-through on tasks</td>
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<tr>
<td>Primary Competency (AP Milestone Identifier) &amp; Title</td>
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<tr>
<td><strong>Professionalism</strong></td>
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<tr>
<td>Giving and receiving feedback</td>
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<tr>
<td>Respects schedules</td>
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<td></td>
<td></td>
<td>Is proactive in taking responsibility and demonstrating leadership skills</td>
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<tr>
<td>Receives feedback constructively</td>
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<td>Is a role model for juniors in receiving and giving constructive feedback</td>
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<tr>
<td>Is receptive and welcoming to suggestions for improvement</td>
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<td>Seeks feedback in order to improve</td>
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<tr>
<td>Realizes that people are error-prone and acknowledges where errors might happen</td>
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<td>Is able to coach juniors on how to deal with constructive criticism</td>
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<tr>
<td>Is aware of self-limitations and capabilities</td>
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<td>Acknowledges weaknesses and seeks help when needed to avoid diagnostic errors and discrepancies</td>
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<tr>
<td>Takes responsibility for errors that might happen</td>
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<td>Knows how to convey diagnostic errors and discrepancies to clinical colleagues</td>
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<td><strong>Manager/Leader</strong></td>
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<tr>
<td>Recognition of errors and discrepancies</td>
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<tr>
<td>Takes responsibility for errors that might happen</td>
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<td>Understands and practices good ethics when faced with a case with diagnostic errors and discrepancies</td>
</tr>
<tr>
<td>Resident Evaluation by Faculty</td>
<td>Failed to meet expectations:</td>
<td>Inconsistently met expectations:</td>
<td>Consistently met expectations:</td>
<td>Sometimes exceeded expectations:</td>
<td>Exceeded expectations:</td>
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<tr>
<td>Overall Performance compared to others at same PGY level</td>
<td>- Consistently absent for work</td>
<td>- Several unexcused absences during rotation</td>
<td>- Was punctual for work and arrived prepared</td>
<td>- Substantially contributed to efficient team functioning</td>
<td>- Successfully integrated clinicopathologic information to generate complete and accurate cytopathology reports</td>
</tr>
<tr>
<td></td>
<td>- Consistently negative attitude</td>
<td>- Clear lack of interest in subject matter</td>
<td>- Was receptive to feedback and consistently pleasant to all colleagues</td>
<td>- Was capable of timely generation of complete cytopathology reports</td>
<td>- Communicated well with both pathology and clinical colleagues</td>
</tr>
<tr>
<td></td>
<td>- Failure to respond to feedback</td>
<td>- Inability to improve despite mid-rotation feedback</td>
<td>- Showed active desire to improve</td>
<td>- Baseline medical knowledge and diagnostic ability were greater than expected for level of training</td>
<td>- Ready to practice cytopathology independently</td>
</tr>
<tr>
<td></td>
<td>- Baseline knowledge and/or diagnostic ability significantly below expected for level of training</td>
<td>- Severe deficits in baseline knowledge and diagnostic ability</td>
<td>- Met the expected level for baseline medical knowledge and diagnostic ability</td>
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</tbody>
</table>

Overall Performance compared to others at same PGY level:
- Consistently negative attitude
- Clear lack of interest in subject matter
- Was receptive to feedback and consistently pleasant to all colleagues
- Was capable of timely generation of complete cytopathology reports
- Communicated well with both pathology and clinical colleagues
- Baseline medical knowledge and diagnostic ability were greater than expected for level of training
- Ready to practice cytopathology independently
<table>
<thead>
<tr>
<th>Primary Competency</th>
<th>R2</th>
<th>R3</th>
<th>R4</th>
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<tbody>
<tr>
<td>Medical Expert</td>
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<tr>
<td>Understands the concept of the cytopathology report</td>
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<tr>
<td>Understands the concept of diagnostic adjuncts, including flow cytometric analysis, immunocytochemistry, and molecular testing</td>
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<tr>
<td>Can generally describe cytomorphology</td>
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<tr>
<td>Knows the principles of FNA technique</td>
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<tr>
<td>Can perform FNA technique under supervision</td>
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<tr>
<td>Understands the need for knowledge of pathogenesis, diagnostic techniques, and prognostic factors in disease processes commonly diagnosed by cytologic methods</td>
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<tr>
<td>Appropriately proposes and explains indications for diagnostic adjuncts, including flow cytometric analysis, immunocytochemistry, molecular testing, and additional samples (cytology or tissue)</td>
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<tr>
<td>Proficient in the integration of clinical information with cytomorphologic features to render highly accurate diagnoses</td>
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<tr>
<td>Consistently describes cytomorphology accurately; integrates clinical findings with microscopic appearance to develop a reasonable final diagnosis</td>
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<tr>
<td>Lists differential diagnosis and prognostic factors for major cytology specimen types</td>
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<tr>
<td>Proficient in the application of diagnostic adjuncts</td>
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<tr>
<td>Performs FNA technique with minimal supervision</td>
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<tr>
<td>Reliably and accurately describes cytomorphology; consistently and accurately renders a diagnosis through integration of clinical information</td>
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<tr>
<td>Proficient in the pathogenesis, diagnostic techniques, and prognostic factors in disease processes commonly sampled by cytological methods</td>
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<tr>
<td>Performs FNA technique independently</td>
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<tr>
<td>Performs FNA technique independently</td>
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<tr>
<td><strong>Manager/Leader</strong></td>
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<tr>
<td>Understands the use of proficiency testing</td>
<td>Demonstrates knowledge of interlaboratory comparison programs and their consequences</td>
<td>With minimal guidance, participates in the implementation of organization standards or elements of checklists in the laboratory</td>
<td>Implements corrective action based on proficiency testing results</td>
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<tr>
<td>Understands the importance of the pathologist’s role in the healthcare team</td>
<td>With substantial guidance, reviews the implementation of standards or elements of checklists in the laboratory</td>
<td>Demonstrates diagnostic competence in interlaboratory comparison programs</td>
<td>Successfully participates in mandated cytology proficiency testing for Pap tests</td>
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</tr>
<tr>
<td>Understands concepts of specimen collection, cytopreparation, and screening, including liquid-based preparation</td>
<td>Demonstrates competence in using laboratory information</td>
<td>Independently plays a role in the healthcare team (e.g., case presentation, consultation, test selection, or guidance)</td>
<td>Effectively plays a lead role in the healthcare team (e.g., case presentation, consultation, or test-selection guidance)</td>
<td></td>
</tr>
<tr>
<td>Observes cytopathology laboratory cytopreparation, including liquid-based preparation for gynecologic and non-gynecologic specimens</td>
<td>Knows the personnel and steps of reporting in the laboratory</td>
<td>Competent in specimen-preparation techniques</td>
<td>Aware of the roles of a pathologist in managing personnel; interprets an organizational chart</td>
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</tr>
<tr>
<td>Aware of the roles of a pathologist in educating the health care team on the indications and contraindications of Cytology and FNA procedures</td>
<td>Demonstrates knowledge of risk-management issues</td>
<td>Involved in QI projects that address identified system errors</td>
<td>Proficient in the use of laboratory information systems</td>
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<td>Demonstrates competence by identifying system errors and implementing potential systems solutions</td>
<td>Participates in actual or simulated risk-management issues</td>
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<td></td>
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<td>Leads identification of system errors and implementation of potential systems solutions</td>
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<td>Primary Competency</td>
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<tr>
<td><strong>Health Advocate</strong></td>
<td>Understands the importance of evidence-based utilization of laboratory tests and results</td>
<td>With substantial guidance, critically reviews the literature addressing evidence-based utilization of laboratory tests and results</td>
<td>With minimal guidance, critically reviews the literature addressing evidence-based utilization of laboratory tests and results</td>
<td>Proficient in performing a critical review of the literature addressing evidence-based utilization of laboratory tests and results and able to design utilization guidelines</td>
</tr>
<tr>
<td>Acknowledges feedback constructively</td>
<td>Has knowledge of a variety of specimens obtained from various organs and the clinical implication of rendering a diagnosis</td>
<td>Independently performs a critical review of the literature addressing evidence-based utilization of laboratory tests and results and designs utilization guidelines</td>
<td>Mentors others in giving and receiving constructive feedback</td>
<td></td>
</tr>
<tr>
<td>Communicator</td>
<td>Understands the importance of timely and effective communication with healthcare providers, families, and patients (as applicable)</td>
<td>With minimal guidance, produces a clear and understandable written report</td>
<td>Effectively communicates complex, difficult, or challenging information</td>
<td>Serves as a role model for effective and professional communication to healthcare providers, families, and patients (as applicable)</td>
</tr>
<tr>
<td>Understands that written reports must be clear and timely</td>
<td>With substantial guidance, produces a clear and understandable written report</td>
<td>(e.g., errors, complications, adverse events, and bad news)</td>
<td>Independently and consistently produces clear and understandable written reports</td>
<td>Actively interacts with the clinician performing FNA to guide tissue procurement and pre-analytical triaging for pertinent testing (i.e., lymphoma)</td>
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<tr>
<td>Actively seeks and maintains changes in practice based on feedback</td>
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<td><strong>Primary Competency</strong></td>
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<tr>
<td><strong>Collaborator</strong></td>
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<td>Is aware of the role of multidisciplinary case conferences (MDCs) in furthering appropriate patient care</td>
<td>Participates through observation and active interaction with clinicians in obtaining relevant clinical and/or radiologic data</td>
<td>Assesses, analyzes, and interprets cytopathology reports and discusses findings in consultation with clinical colleagues</td>
<td>Fully participates as a member of the healthcare team and is recognized as proficient by peers and clinical colleagues</td>
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<td>Observes the provision of appropriate and effective intra- and interdepartmental consultations</td>
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<tr>
<td><strong>Professionalism</strong></td>
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<td>Is honest and understands the concepts of ethical behavior; seeks counsel when ethical questions arise</td>
<td>Reliably completes assigned tasks in a timely manner; assists team members when requested; respects assigned schedules</td>
<td>Identifies personal limitations and takes responsibility for errors</td>
<td>Exemplifies effective management of multiple competing tasks with reliable follow-up</td>
</tr>
<tr>
<td>Primary Competency</td>
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<td>Acknowledges personal limitations, near misses, and errors and puts the needs of patients first; takes responsibility for errors</td>
<td>Anticipates team needs and takes a leadership role to independently implement solutions</td>
<td>Institutes corrective measures for errors; is viewed by members of the healthcare team as accepting of personal responsibility and as always putting the needs of the patient above his/her own interests</td>
<td>Is a source of support and guidance to other members of the healthcare team</td>
</tr>
</tbody>
</table>

Adapted from uOttawa Anatomic Pathology Residency Program _Milestones in Surgical Pathology and Cytopathology_
TEACHING AND ACADEMIC ACTIVITIES

Teaching and learning will be structured and programmatic, with more responsibility for self-directed learning.

Internal Educational Material

Mandatory Activities
Each institution is requested to provide or allow the resident to attend the following educational activities that are arranged by the local committees:

For R1 Residents:
Basic Pathology and Histotechnology (eight weeks)

For All Residents (venue to be announced for each session):
- Academic Half Day (twice a month)

Presently bi-monthly and in some regions once weekly, at least four to six hours of formal training time should be reserved for resident academic half day. Formal teaching time is planned in advance with an assigned tutor, time slots, and a venue.

Trainee-selected topics are to be presented within the Core Education Program (CEP) in the resident academic half day according to the following guidelines:

a) Trainees will be given the choice to develop a list of topics alone.
b) They can choose any topics relevant to their needs.
c) All of these topics must be planned and cannot be random.
d) All of the topics must be approved by the local education committee.
e) Delivery will be local, within the program activities.
f) Institutions can work with trainees to determine topics.

A master-list for suggested and recommended academic half-day lectures is provided in Appendix B. The lectures will be scheduled throughout two years and will be repeated every two years. A schedule for the current academic year with the venue and speaker should be provided at the beginning of every academic year.

- City-Based Pathology Group Meeting (once a month)
- Thorough review of the laboratory safety manual from at least one CAP-accredited hospital
- Thorough review of the grossing IPP manual and quality management manual from at least one CAP-accredited hospital
- Resident Review Course (held during alternate years)
- CEP will be supplemented by other practice-based learning (PBL) such as

A. Case presentations outlining the following:
• Presenting symptoms and clinical differential diagnosis
• Laboratory data and imaging used and their indications and interpretation
• Pathological findings, differential diagnosis, and final diagnosis
• Use of ancillary studies and their role in making a diagnosis
• Thorough review of the topic with literature review
• Management plan, outcome, and follow-up

B. Journal clubs

Guidelines for Anatomic Pathology Journal Club

Goals of Journal Club:

• Teach critical appraisal
• Keep current with the medical literature
• Provide a foundation for evidence-based practice
• Review landmark or controversial papers

Characteristics of successful journal clubs

• Presented by residents or fellows and actively supervised by staff
• Attendance is mandatory
  o Residents and fellows
• Meetings last for less than 60 minutes
  o Protected time (preferably pager off!)
• Supported and endorsed by the program director and departmental leaders

Problem-Based Learning

• Choose one to two relevant journal articles related to the specialty.
  o Twenty minutes for presentation followed by ten minutes of critiques for each paper
  o Topics for discussion may be:
• Ask, “So what?”
• Will it change my practice?
• Is the question important?

Purpose

• Research question, study objective, and specific hypothesis:
• Do the authors provide a clear and specific question and hypothesis?
• Is the research objective clear and unambiguous?
Critically Reviewing Articles

- Methodology:
  - Is the study design appropriate for the research question?
- Pros and cons of this design
- Pros and cons of alternative methodologies
- Advantages and disadvantages of the chosen methodology
- Level of evidence
- Confounding, bias, and validity

Study Population

- Characteristics of the study population:
  - Who are the participants?
  - Time and place?
    - Is the study population appropriate?
    - Characteristics of the sample
- Random versus convenience sampling
- Is the population similar to my patients?
- Specific inclusion and exclusion criteria
- Are these appropriate?
- Selection bias?

Measurement Issues and Bias

- How are variables measured?
- Misinformation bias?
- Detection bias?
- Masking or blinding?

Statistical Analysis

- How were the data analyzed?
- Appropriate tests
- P values versus sizes and 95% confidence intervals (more informative)
- NS versus actual P values
- Multivariable methods
- Regression analysis?
TEACHING AND ACADEMIC ACTIVITIES

Sample Size and Power

- Sample size calculation done a priori?
- Did the investigators specify a clinically important difference they would like to detect?
- Type I ($\alpha$ or alpha) and Type II ($\beta$ or beta) errors, Power=$1 - \text{type II error}$

Results

- What are the results?
- Are they clearly presented and understandable?
- How were the results interpreted?
- Are the interpretations appropriate?
- Threats of validity
- Loss to follow-up
- Missing information
- Control of confounding
- Issues of bias

Discussion

- Are the conclusions supported by the data?
- Relate findings to other studies in the medical literature
- Do the authors “stretch” too far?
- What are the strengths of the study?
- What are the study weaknesses or flaws?
- Do the authors recognize them?
- Come back to the key question: So what?
- Will it change how we practice?
- Will it change how we counsel patients?
Conclusions

- Where to from here?
- Do the findings contribute to our knowledge of the subject?
- How could we do better?
- What additional questions does the study raise?

c) Multihead slide sessions
d) Gross-specimen review session (scheduled according to the teaching center)
e) The residents should be encouraged to attend the self (MOCK) CAP inspection
f) Hospital/departmental grand rounds and other continuous medical education activities
g) Multidisciplinary meetings and tumor boards
(See Appendix C for examples of various teaching activities)

- Every three months, at least one hour should be assigned to activities such as meeting with mentors (or the program director), review of portfolio (Log Book—Appendix E), and discussing the evaluation

Note:
* All educational activities should be documented, and the following information should appear in the QC sheet: date, title, name of residents attending the session, and name of pathologist leading the session.

* Each resident is required to attend at least 75% of all the educational activities held at the institute where he/she is training.

Optional Activities

- Each institution must encourage the following educational activities:
  - The resident is encouraged to present at least once a year at the local, national, or international pathology meeting.
  - The resident is encouraged to review the department teaching file.
  - The resident should be encouraged to attend national educational activities (symposia, workshops, review course, etc.)

External Educational Material

Suggested Activities

- CAP team member inspector course online
- Review of and familiarity with ASCP Laboratory Management Course material
- California Tumor Tissue Registry (CTTR) slides
- College of American Pathologists external quality control slides
- The Royal College of Pathologists of Australia (RCPA) Quality Assurance Program
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

Introduction to Anatomic Pathology and Histotechnology

Objectives:
- Terminology in surgical pathology and requests for pathologic evaluation
- Specimen processing: from gross specimens to tissue cassettes (including fixation)
- Specimen processing: from tissue cassettes to glass slides
- Surgical pathology reporting (including synoptic reporting and cancer staging)
- Operating-room consultations, frozen sections, and consultation reports
- Microscopy and photography
- Special studies
  - Histochemistry (special stains)
  - Electron microscopy
  - Immunofluorescence in kidney and skin disease
  - Immunohistochemistry
  - Flow cytometry
  - Cytogenetics and FISH
  - Molecular pathology
- Laboratory operation
  - Safety
  - Quality management (quality control, assurance, and improvement)
  - Errors in surgical pathology
  - Laboratory management
  - Pathology informatics
  - Normal Histology and anatomy
  - Skin
  - Connective tissue, bone, cartilage, and muscle
  - Cardiovascular system
  - Nervous system
  - Lymphatic system
  - Oral cavity and salivary glands
  - Gastrointestinal tract
  - Liver, gallbladder, and pancreas
  - Urinary system
  - Male reproductive system
  - Female reproductive system
  - Eye and ear
  - Principles of specimen grossing
  - General principles of specimen grossing
  - Simple specimens and biopsies
  - Breast and sentinel lymph nodes
  - Skin
  - Thyroid, parathyroid, and adrenal gland
  - Lymph nodes and spleen
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Esophagus, stomach, and small intestine
- Colon
- Liver
- Pancreas and Whipple procedure
- Kidney
- Urinary bladder
- Prostate
- Testis
- Uterus and cervix
- Ovary
- Neuropathology specimens
- Head and neck
- Amputations and bone specimens
- Lung and pleura
- Heart explants

Basic Pathology

(Main reference: Robbins & Cotran Pathologic Basis of Disease)
Objectives:
- Cellular response to stress: adaptation, injury, and death
- Inflammation
- Tissue renewal, regeneration, and repair
- Hemodynamic disorders, thromboembolic disease, and shock
- Genetic disorders
- Diseases of the immune system
- Neoplasia
- Infectious diseases
- Environmental and nutritional diseases
- Diseases of infancy and childhood

Skin

Objectives:
- Non-neoplastic diseases
  - Infectious diseases: viral, bacterial, fungal, and parasitic
  - Spongiotic dermatitis
  - Psoriasis and psoriasiform dermatitis
  - Lichen planus and interface dermatitis
  - Perivascular dermatitis and drug eruptions
  - Dermal lesions
  - Sclerosing dermatoses
  - Skin manifestations in connective-tissue disease and systemic diseases
  - Panniculitis
o Vesiculobullous and hereditary skin diseases
o Degenerative diseases
o Alopecia

• Tumors
  o Epidermal tumors
  o Adnexal tumors
  o Melanocytic tumors
  o Dermal and mesenchymal tumors
  o Cutaneous lymphoma and other lymphoid lesions
  o Other tumors and tumor-like conditions

Oral Cavity and Oropharynx

Objectives:
• Congenital anomalies
• Inflammatory diseases
• Other non-neoplastic lesions
• Tumors and tumor-like conditions of surface epithelium
• Tumors and other lesions of minor salivary glands
• Tumors of odontogenic epithelium
• Tumors of melanocytes
• Tumors and tumor-like conditions of lymphoid tissue
• Other tumors and tumor-like conditions

Mandible and Maxilla

Objectives:
• Inflammatory diseases
• Central giant-cell granuloma and other giant-cell–containing lesions
• Fibro-osseous lesions
• Odontogenic and non-odontogenic cysts
• Odontogenic tumors
• Other tumors and tumor-like conditions
• Diseases of the temporomandibular joint

Respiratory Tract

Objectives:
• Nasal cavity, paranasal sinuses, and nasopharynx
  o Inflammatory/allergic polyps
  o Other inflammatory lesions
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Tumors
  - Sinonasal papillomas
  - Sinonasal carcinomas
  - Nasopharyngeal carcinoma
  - Salivary-gland tumors
  - Neurologic and related tumors
  - Lymphoid tumors and tumor-like conditions
  - Other tumors and tumor-like conditions
- Larynx and trachea
  - Larynx
    - Cysts and laryngoecele
    - Inflammation
    - Laryngeal nodule and contact ulcer
    - Other non-neoplastic lesions
    - Tumors and tumor-like conditions
  - Trachea
    - Non-neoplastic lesions
    - Tumors of the trachea
- Lungs and Pleura
  - Pleura
    - Pleuritis and non-neoplastic lesions
    - Asbestosis and the pleura
    - Tumors of the pleura
  - Lungs
    - Non-neoplastic lesions
      - Cystic diseases and bronchopulmonary sequestration
      - Infections
      - Granulomatous inflammation
      - Chronic obstructive lung disease, bronchiectasis, and asthma
      - Acute lung injury
      - Interstitial lung disease
      - Pneumoconiosis
      - Langerhans cell histiocytosis and other histiocytic disorders
      - Lungs and HIV infection
      - Lungs and transplantation
      - Vascular diseases
      - Other non-neoplastic diseases
    - Tumors of the lung
      - Hamartoma
      - Lung carcinoma
      - Neuroendocrine and carcinoid tumors
      - Vascular tumors
      - Lymphoid tumors and tumor-like conditions
      - Salivary gland–type tumors
      - Other tumors and tumor-like conditions
      - Metastatic tumors
Mediastinum

Objectives:
- Inflammatory diseases
- Cysts
- Thyroid and parathyroid lesions
- Thymus
- Germ cell tumors
- Malignant lymphoma
- Neurogenic tumors
- Tumors of the paraganglia
- Mesenchymal tumors
- Metastatic tumors

Thyroid Gland

Objectives:
- Congenital abnormalities
- Thyroiditis
- Hyperplasia and nodular goiter
- Tumors
  - Epithelial tumors
    - Follicular adenoma
    - Papillary carcinoma
    - Follicular carcinoma
    - Other types of carcinoma
  - Medullary carcinoma and related neuroendocrine lesions
  - Lymphoid tumors
  - Mesenchymal tumors
  - Other tumors and tumor-like conditions

Parathyroid Glands

Objectives:
- Hyperplasia
- Parathyroid adenoma
- Parathyroid carcinoma
- Other lesions
- Frozen section for parathyroid lesions
Gastrointestinal Tract

Objectives:

- **Esophagus**
  - Atresia and related anomalies
  - Heterotopia
  - Diverticula, cysts, rings, and webs
  - Achalasia and related motor disorders
  - Esophagitis
  - Tumors
    - Squamous cell carcinoma
    - Adenocarcinoma
    - Other types of carcinoma
    - Smooth muscle tumors and GIST
    - Other tumors and tumor-like conditions

- **Stomach**
  - Congenital anomalies
  - Heterotopic tissues
  - Gastritis and peptic ulcer disease
  - Other non-neoplastic lesions
  - Tumors
    - Benign tumors and polyps
    - Carcinoma
    - Stromal tumors
    - Lymphoid tumors and tumor-like conditions
    - Other tumors

- **Small bowel**
  - Congenital anomalies
  - Malabsorption
  - Ulcers and vascular diseases
  - Inflammatory bowel disease
  - AIDS-related inflammatory disease
  - Irradiation effect
  - Other non-neoplastic diseases
  - Tumors
    - Benign epithelial tumors
    - Adenocarcinoma
    - Other types of carcinomas
    - Carcinoid and endocrine tumors
    - Gangliocytic paraganglioma
    - GIST
    - Malignant lymphoma

- **Large bowel**
  - Congenital defects
  - Hirschsprung’s disease
  - Diverticulosis
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Inflammatory bowel disease
- Other types of colitis
- Vascular diseases
- AIDS-related lesions
- Irradiation effect
- Other non-neoplastic diseases
- Polyps
- Tumors
  - Benign epithelial tumors
  - Adenocarcinoma
  - Other types of carcinomas
  - Neuroendocrine tumors
  - GIST
  - Malignant lymphoma
  - Metastasis

- Appendix
  - Acute appendicitis
  - Other inflammatory lesions
  - Tumors and tumor-like conditions

- Anus
  - Embryologic defects
  - Inflammatory disorders
  - Hemorrhoids
  - Tumors and tumor-like conditions

Major and Minor Salivary Glands

Objectives:
- Heterotropia
- Sailolithiasis
- Sialadenitis, Miculicz disease, and Sjögren syndrome
- Benign lymphoepithelial cysts and HIV-related lesions
- Other non-neoplastic lesions
- Epithelial tumors
- Malignant lymphoma
- Other primary neoplasms
- Metastatic tumors
- Frozen section in salivary-gland lesions

Liver

Objectives:
- Non-neoplastic diseases
  - Cirrhosis
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Viral hepatitis
- Drug-induced and toxic liver injury
- Steatosis and steatohepatitis
- Cholestasis and biliary disease
- Childhood disorders
- Metabolic disorders
  - Fibropolycystic diseases (ductal plate malformation)
  - Vascular disorders
  - Nodular regeneration
  - Liver disease of pregnancy
  - Liver involvement in other organ or systemic diseases
  - Infectious cysts
  - Liver transplant pathology
- Tumors and tumor-like conditions
  - Focal nodular hyperplasia
  - Hepatocellular adenoma
  - Hepatocellular carcinoma
  - Hepatoblastoma
  - Intrahepatic bile-duct tumors and tumor-like conditions
  - Mesenchymal tumors and tumor-like conditions
  - Other primary tumors and tumor-like conditions
  - Metastatic tumors

Gallbladder and Extrahepatic Bile Ducts

**Objectives:**
- Congenital abnormalities
- Cholelithiasis
- Cholecystitis
- Tumors and tumor-like conditions of the gallbladder
- Carcinoma of extrahepatic bile ducts

Pancreas and Ampullary Region

**Objectives:**
- Congenital anomalies
- Pancreatitis
- Pancreatic transplantation
- Abscess
- Pseudocyst
- True cyst
- Tumors
  - Ductal adenocarcinoma
  - Cystic pancreatic neoplasms
Acinar cell tumors
Solid pseudopapillary tumor
Pancreatoblastoma
Other epithelial tumors
Endocrine tumors
Mesenchymal tumors

Ampullary region: ampullary carcinoma and other lesions

Adrenal Gland and Other Paraganglia

Objectives:
- Adrenal cortex
  - Heterotopia and hyperplasia
  - Adrenocortical tumors
- Adrenal medulla
  - Neuroblastic tumors
  - Pheochromocytoma
- Other adrenal lesions
- Tumors of the paraganglia

Urinary Tract

Objectives:
- Kidney
- Non-neoplastic diseases
  - Handling of the renal biopsy
  - Primary and secondary glomerular diseases
  - Glomerular lesions associated with vascular diseases
  - Hereditary glomerular diseases
  - Renal transplant pathology
  - Tubulointerstitial diseases
  - Cystic diseases of the kidney
- Pediatric tumors and tumor-like conditions
  - Wilms’ tumor and associated lesions
  - Other pediatric tumors
- Adult tumors and tumor-like conditions
  - Renal cell carcinoma
  - Oncocytoma
  - Neuroendocrine tumors
  - Angiomyolipoma
  - Sarcomas and lymphoid lesions
  - Other tumors and tumor-like conditions
  - Tumors of the renal pelvis and ureter
- Bladder
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Congenital anomalies
- Lithiasis
- Cystitis
- Metaplastic conditions
- Benign tumors and tumor-like conditions
- Urothelial (transitional cell) carcinoma
- Other primary carcinomas
- Other malignant tumors
- Urethra
- Congenital anomalies
- Inflammation
- Tumors
  - Benign
  - Malignant

Male Reproductive System

Objectives:
- Prostate and seminal vesicles
- Nodular hyperplasia
- Prostatitis
- Tumor-like conditions
- Carcinoma
- Other tumors
- Tumors and tumor-like conditions of seminal vesicles
- Testis
- Cryptorchidism
- Other non-neoplastic lesions
- Tumors
  - Germ-cell tumors
  - Sex cord–stromal tumors
  - Other primary tumors
- Testicular adnexa
  - Rete testis lesions
  - Epididymis: tumors and non-neoplastic lesions
- Penis and scrotum
  - Non-neoplastic lesions
  - Bowen’s disease and intraepithelial neoplasia
  - Squamous-cell carcinoma
  - Other carcinoma types
  - Other tumors and tumor-like conditions
  - Scrotum: tumors and non-neoplastic lesions
Female Reproductive System

Objectives:

- **Vulva**
  - Inflammatory diseases
  - HPV-related lesions
  - Squamous lesions: intraepithelial and invasive
  - Paget disease
  - Other epithelial tumors
  - Melanocytic tumors
  - Aggressive angiomyxoma and related lesions
  - Lesions of Bartholin gland and female urethra

- **Vagina**
  - Non-neoplastic lesions
  - Benign epithelial tumors
  - Squamous lesions: intraepithelial and invasive
  - Other types of carcinoma
  - Mesenchymal tumors and tumor-like conditions
  - Melanocytic tumors

- **Uterus—cervix**
  - Remnants, ectopias, and metaplasias
  - Inflammatory lesions
  - Non-neoplastic glandular and stromal lesions
  - HPV and the lower female genital tract
  - Tumors
    - Cervical intraepithelial neoplasia (CIN)
    - Invasive squamous-cell carcinoma
    - Adenocarcinoma
    - Neuroendocrine carcinoma
    - Other tumors

- **Uterus—corpus**
  - Approach to endometrial biopsy, normal appearance, and hormonal changes
  - Endometritis
  - Metaplasias
  - Endometriosis and adenomyosis
  - Endometrial hyperplasia
  - Tumors
    - Endometrial carcinoma
    - Endometrial stromal tumors
    - Malignant mixed Mullerian tumor
    - Adenosarcoma and related lesions
    - Smooth muscle tumors
    - Other tumors and tumor-like conditions

- **Fallopian tubes**
  - Inflammation
  - Other non-neoplastic lesions
  - Carcinoma and other tumors
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Ovary
  - Gonadal dysgenesis
  - Non-neoplastic cysts and lesions
  - Inflammation
  - Tumors
- Surface Epithelial Tumors
- Germ-Cell Tumors
- Sex Cord–Stromal Tumors
- Tumors Not Specific to the Ovary
- Placenta and trophoblastic disease
  - Non-neoplastic lesions of term placenta
  - Tumors and tumor-like conditions of term placenta
  - Gestational trophoblastic disease
    - Hydatidiform mole
    - Choriocarcinoma
    - Placental-site trophoblastic tumor and related lesions

Breast

Objectives
- Inflammatory and related lesions
- Fibrocystic disease
- Benign proliferative breast disease
- Fibroadenoma, phyllodes tumor, and related lesions
- Intraductal papillary lesions
- Breast cancer
  - General features
  - Diagnostic approach
  - Microscopic types, in situ and invasive
  - Molecular genetics and classification of breast cancer
  - Effects of therapy on tumors and on the normal breast
  - Staging, grading, and prognosis
- Salivary-gland and skin-adnexal–type tumors
- Mesenchymal tumors and tumor-like conditions
- Lymphoid tumors and tumor-like conditions
- Breast diseases in males

Lymph Nodes

Objectives:
- Evaluation of lymph nodes; normal immunohistochemistry
- Benign/reactive lymphadenopathies and diagnostic pitfalls
- Markers in lymphoma diagnosis and ancillary techniques
- Small B-cell lymphomas
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Burkitt lymphoma and diffuse large B-cell lymphoma
- Hodgkin lymphoma
- T-cell lymphomas
- Cutaneous lymphomas/leukemias
- Vascular and other non-hematopoietic tumors of lymph nodes

Spleen

Objectives:
- Congenital anomalies
- Cysts
- Other non-neoplastic disorders
- Hematolymphoid tumors and tumor-like conditions
- Vascular tumors
- Other tumors and tumor-like conditions

Bone Marrow

Objectives:
- General approach and normal histology

Bones and Joints

Objectives:
- Metabolic bone diseases and Paget disease
- Fractures
- Osteomyelitis
- Bone necrosis
- Tumors
  - Bone-forming tumors
  - Cartilage-forming tumors
  - Fibrous and fibrohistiocytic tumors
  - Giant cell tumor
  - Ewing sarcoma/PNET
  - Vascular tumors
  - Notochordal lesions
  - Other mesenchymal tumors
  - Lymphoid tumors and related lesions
Soft Tissues

Objectives:
- Infections and hematomas
- Tumors
  - General features, grading, and staging
  - Fibroblastic/myofibroblastic tumors
  - So-called fibrohistiocytic tumors
  - Peripheral-nerve tumors
  - Adipose-tissue tumors
  - Blood- and lymph-vessel tumors
  - Smooth-muscle tumors
  - Striated-muscle tumors
  - Tumors of uncertain type
  - Tumor-like conditions

Peritoneum, Retroperitoneum, and Related Structures

Objectives:
- Peritoneum
  - Inflammation
  - Reaction to foreign materials
  - Cysts
  - Hyperplasia and metaplasia
  - Tumors
- Omentum, mesentery, hernia sacs, and umbilicus
- Retroperitoneum
  - Non-neoplastic conditions
  - Tumors
- Sacrococcygeal region
  - Developmental anomalies
  - Germ-cell tumors
  - Pilonidal disease

Cardiovascular System

Objectives:
- Heart
  - Cardiomyopathy and myocarditis
  - Heart transplant
  - Cardiac valve disease
  - Cardiac tumors
  - Pericardial disease
- Arteries
Arteriosclerosis and atherosclerosis
Aneurysms
Traumatic and iatrogenic injuries
Arteritis and vasculitis
Tumors

Veins
Thrombophlebitis and thromboembolism
Varicose veins
Tumors

Lymph vessels
Lymphedema
Tumors

Neuromuscular System

Objectives:
Central nervous system
Congenital anomalies
Cerebrovascular disorders
Inflammatory and demyelinating diseases
Infectious diseases
Degenerative diseases
Primary tumors
- Glial tumors
- Neuronal and glioneuronal tumors
- Choroid plexus tumors
- Embryonal neuroepithelial tumors
- Meningeal and other dural based tumors
- Lymphoid tumors
- Germ-cell tumors
Other primary tumors
Tumors of the spinal cord
Secondary tumors
Peripheral nerves
Skeletal muscle
Pituitary Gland

Objectives:
- Pituitary adenoma
- Pituitary carcinoma
- Rathke cleft cyst
- Lymphocytic hypophysitis
- Craniopharyngioma
- Pituicytoma

Eye and Ocular Adnexa

Objectives:
- Eyelids
  - Inflammation
  - Cysts
  - Tumors and tumor-like conditions
- Lacrimal gland and passages
  - Inflammation
  - Tumors and tumor-like conditions
- Orbit
  - Inflammatory processes
  - Tumors and tumor-like conditions
- Conjunctiva
  - Cysts
  - Inflammation
  - Tumors and tumor-like conditions
- Intraocular Tissues
  - Malignant melanoma
  - Retinoblastoma and related lesions
  - Other primary tumors

Ear

Objectives:
- Diseases of the external ear
  - Non-neoplastic disorders
  - Tumors and tumor-like conditions
- Diseases of the middle and inner ear
  - Non-neoplastic disorders
  - Tumors and tumor-like conditions
Cytopathology

Objectives:

- Cervical and vaginal cytology
  - Sampling and preparation methods
  - Diagnostic terminology—reporting system: Bethesda system
  - Normal PAP
  - Organisms and infection
  - Benign and reactive changes
  - Squamous abnormalities
  - Glandular abnormalities
  - Other malignant neoplasms
  - Endometrial cells in women older than 40 years of age

- Respiratory tract and mediastinum
  - Normal cytology of the respiratory tract
  - Sampling techniques, preparation methods, reporting terminology, and accuracy
  - Molecular testing of lung cancer
  - Benign cellular changes
  - Noncellular elements and specimen contamination
  - Infections
  - Non-neoplastic, noninfectious pulmonary disease
  - Benign neoplasms of the lung
  - Precursor lesions of the respiratory epithelium
  - Lung cancer
  - Uncommon pulmonary tumors
  - Metastatic cancer of the lung
  - Tumor of the mediastinum

- Urine and bladder washing
  - Specimen collection and processing
  - Reporting terminology and adequacy criteria and accuracy
  - Normal elements
  - Benign lesions
  - Urothelial neoplasms
  - Other malignant lesions
  - Ancillary techniques

- Pleural, pericardial, and peritoneal fluids
  - Specimen collection and processing
  - Reporting terminology and accuracy
  - Benign elements
  - Non-neoplastic conditions
  - Inflammatory effusions and other non-neoplastic conditions
  - Malignant effusions

- Peritoneal washings
  - Specimen collection and processing, reporting terminology, and accuracy
  - Normal peritoneal washing
  - Benign conditions
  - Malignant tumors
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Cerebrospinal fluids
  - Anatomy and physiology
  - Specimen collection and processing, reporting terminology, and accuracy
  - Normal elements
  - Abnormal inflammatory cells
  - Non-neoplastic disorders
  - Neoplasms
  - Metastatic tumors
  - Leukemia, lymphoma
  - Primary central nervous system tumors

- Gastrointestinal tract
  - Clinical indication, sample collection, and preparation
  - Accuracy
  - Esophagus
  - Stomach
  - Duodenum
  - Colon
  - Anal PAP test

- Fine-needle aspiration biopsy technique and specimen handling
  - Material and supplies
  - Procedure for performing a fine-needle aspiration of a palpable mass
  - Preparing the sample
  - Complications and management of adverse events

- Breast
  - Specimen types and reporting terminology
  - Evaluation of the specimen
  - Normal breast cytology
  - Benign conditions
  - Papillary neoplasms
  - Phyllodes tumor
  - Breast cancer and uncommon tumors
  - Metastatic tumors

- Thyroid
  - Aspiration technique and slide preparation
  - Terminology for reporting results
  - Accuracy
  - Ancillary molecular testing
  - Evaluation of the specimen
  - Benign conditions
  - Suspicious for a follicular neoplasm
  - Suspicious for a follicular neoplasm, Hurthle cell type
  - Malignant conditions
  - Papillary thyroid carcinoma
  - Poorly differentiated thyroid carcinoma
  - Anaplastic (undifferentiated) carcinoma
  - Squamous-cell carcinoma
  - Medullary thyroid carcinoma
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Lymphoma
- Metastatic carcinoma
- Atypia of undetermined significance (or follicular lesion of undetermined significance)
- Parathyroid tumors

Salivary gland
- Rationale, indications, and technical consideration
- Diagnostic overview
- The normal aspirate
- Non-neoplastic conditions
- Benign neoplasms
- Carcinoma of salivary-gland origin
- Rare malignant neoplasms
- Other malignancies

Lymph nodes
- Technical aspect
- Reporting terminology and accuracy
- Ancillary studies
- Non-neoplastic lesions
- Neoplasms

Liver
- Normal liver
- Infections
- Benign lesions
- Malignant tumors

Pancreas and biliary tree
- Indications, sampling techniques, complication
- Rapid on-site evaluation
- Sample preparation and cyst-fluid analysis
- Accuracy and limitation
- Reporting and terminology
- Pancreatitis and reactive changes
- Pancreatic intraepithelial neoplasia
- Ductal adenocarcinoma
- Variants of ductal adenocarcinoma
- Pancreatic neuroendocrine tumor
- Acinar cell carcinoma
- Solid-pseudopapillary neoplasm
- Pancreatoblastoma
- Pancreatic cysts
- Secondary pancreatic neoplasms and ectopic splenic tissue

Kidney and adrenal gland
- Kidney
  - Specimen collection and preparation
  - Accuracy and adequacy
  - Normal elements
ANATOMIC PATHOLOGY CORE SPECIALTY TOPICS

- Benign lesions
- Renal cell carcinoma
- Urothelial carcinoma
- Metastatic tumors

  o The adrenal gland
    - Specimen collection, preparation, and accuracy
    - Myelolipoma
    - Adrenal cortical neoplasm
    - Pheochromocytoma
    - Metastatic tumors

- Ovary
  o Specimen collection, preparation, reporting, accuracy
  o Benign tumor-like lesions of the ovary
  o Benign surface epithelial–stromal tumors
  o Malignant surface epithelial–stromal tumors
  o Germ-cell tumors
  o Sex-cord stromal tumors
  o Metastatic tumors

- Soft tissue
  o Specimen collection, preparation, and reporting terminology
  o Ancillary studies
  o Adipocytic and lipogenic neoplasms
  o Myxoid neoplasms
  o Spindle-cell neoplasm
  o Fibrohistiocytic neoplasm
  o Round-cell neoplasm
  o Epithelioid neoplasm
  o Pleomorphic neoplasm
  o Dedifferentiated sarcoma
  o Non-neoplastic soft-tissue lesions

- Cytology laboratory management
  o Regulatory organizations
  o Laboratory personnel
  o Policy and procedure manual
  o Workflow
  o Quality control and quality assurance
  o Competency assessment
  o Proficiency testing
  o Performance evaluation
  o Safety
ASSESSMENT

Purpose

The purposes of assessment during the training are as follows:

- Supporting learning
- Development of professional growth
- Monitoring progression
- Competency judgment and certification
- Evaluation of the quality of the training program

General Principles

- Judgment should be based on holistic profiling of a trainee rather than individual traits or instruments.
- Assessment should be continuous in nature.
- The resident and faculty must meet to review the resident’s performance.
- Assessment should be strongly linked to the curriculum and course content.
- Residents’ evaluation and assessment throughout the program are undertaken in accordance with the Commission’s training and examination rules and regulations.

This includes the following:

A. Annual Assessment

1. Continuous Appraisal

This assessment is conducted toward the end of each training rotation throughout the academic year and at the end of each academic year as continuous assessment in the form of formative and summative evaluation.

Formative Continuous Evaluation:

To fulfill the CanMEDS competencies based on the end-of-rotation evaluation, the resident’s performance will be evaluated jointly by relevant staff for the following competencies:

1. Performance of the trainee during daily work.
2. Performance and participation in academic activities.
4. The CanMEDS-based competencies end-of-rotation evaluation form must be completed within two weeks following the end of each rotation and signed by the program director. The program director will discuss the evaluation with the resident, as necessary. The evaluation form will be submitted to the Regional Training Supervisory
Committee of the SCFHS within four weeks following the end of the rotation (Appendix D).
5. The assessment tools, in the form of a logbook, are assessed at the end of each year by the chairs of the local committees (Appendix E).
6. The assessment tools used, can be in the form of an educational portfolio (i.e., monthly evaluation, rotational Mini-CEX, CBDs, DOPS, and MSF).
7. Academic and clinical assignments should be documented on an annual basis using the electronic logbook (when applicable). Evaluations will be based on accomplishment of the minimum requirements for the procedures and clinical skills, as determined by the program.

*Clinical evaluation exercises
**Case-based discussions
***Direct observation of practical skills
****Multisource feedback

Summative Continuous Evaluation:
This is a summative continuous evaluation report prepared for each resident at the end of each academic year (ITER). The report may also involve the result of applying clinical examination, oral examination, objective structured practical examination (OSPE), objective structured clinical examination (OSCE), academic or clinical assignment and international in training evaluation exam

2. End-of-year Examination
The end-of-year examination will be limited to R1, R2, R3, and R4. The number of exam items, eligibility, and passing score will be in accordance with the commission’s training and examination rules and regulations. Examination details such as dates of the exam and the blueprint are published on the commission Website, www.scfhs.org.sa

Resident In-Service Exam (RISE)
This exam is from the American Society for Clinical Pathology (ASCP) and was written by residents in Canada and United states. The reason for taking this exam is for the resident to judge his/her progress among peers on an internationally standardized exam. It will provide a benchmark for the trainers and guide the program directors on how to improve the program. Residents from levels R2 to R5 will sit for this exam, as part of their annual overall ITER (In-Training Evaluation Report).

More information can be found at http://www.ascp.org/Residents/RISE
B. Anatomic Pathology Saudi Board Examination (Part I)

This exam is conducted in the form of a written examination with an MCQ format and is held at least once a year. The number of exam items, eligibility, and the passing score will be in accordance with the Commission’s training and examination rules and regulations. In addition, there will be a practical exam with slides for long and short cases and a computer-based exam.

Examination details such as dates of the exam and a blueprint are published on the commission Website: www.scfhs.org.sa

C. Final In-training Evaluation Report (FITER)

In addition to the approval of completion of the clinical requirements (trainee’s logbook) by the local supervising committee, the FITER is also prepared by the program’s directors for each resident at the end of his/her final year in residency (RS). Since the AP-SB is a joint program with numerous hospitals, the FITER for the RS should be completed by the program director in the hospital where the resident was rotating in the last six months and then should be submitted to the chair of the local committee. This report may also involve clinical examinations, oral examinations, or other academic assignments.

This might also involve the Resident In-Service Exams; see Appendix F.

D. Final Anatomic Pathology Saudi Board Examination (Saudi Board Examination Part II)

The final Saudi Board Examination comprises of two parts:

1. Written Examination

This examination assesses candidates’ theoretical knowledge base (including knowledge of recent advances) and problem-solving capabilities in the specialty of anatomic pathology. It is delivered in an MCQ format and short notes and is held at least once a year.

The number of exam items, eligibility, and the passing score will be in accordance with the Commission’s training and examination rules and regulations.

Examination details such as dates of the exam and a blueprint are published on the Commission Web site: www.scfhs.org.sa
2. **Practical and Oral Examination**

This examination assesses a broad range of high-level clinical and diagnostic skills. The examination is held at least once a year, preferably in an objective structured clinical examination (OSCE) format.

The exam eligibility and passing score will be in accordance with the Commission’s training and examination rules and regulations.

Examination details such as dates of the exam and a blueprint are published on the Commission Web site, [www.scfhs.org.sa](http://www.scfhs.org.sa).

**E. Certification:**

A certificate of training completion will only be issued upon the resident’s successful completion of all program requirements. Candidates passing all components of the final specialty examination are awarded the “Saudi Board in Anatomic Pathology.”
SUGGESTED REFERENCES AND READING RESOURCES

Textbooks

(Note: The latest edition for each book is recommended.)

**Basic Pathology**
- Robbins and Cotran Pathologic Basis of Disease

**Histology:**
- Histology for Pathologists, by Stacey E. Mills
- Histology: A Text and Atlas, by Michael Ross
- Wheater’s Functional Histology

**Surgical Pathology Introductory Books** (important for junior residents)
- Manual of Surgical Pathology, by Susan Lester
- The Practice of Surgical Pathology, by Diana Molavi

**Surgical Pathology**
- Rosai and Ackerman's Surgical Pathology
- Sternberg’s Diagnostic Surgical Pathology
- Diagnostic Histopathology of Tumors, by Christopher Fletcher
- Differential Diagnosis in Surgical Pathology
- Essentials of Anatomic Pathology
- The Washington Manual of Surgical Pathology
- Diagnostic Immunohistochemistry, by David Dabbs

**Cytopathology**
- Cytology: Diagnostic Principles and Clinical Correlates, by Edmund Cibas and Barbara Ducatman
- The Bethesda System for Reporting Cervical Cytology
- The Bethesda System for Reporting Thyroid Cytopathology
- The Art & Science of Cytopathology, by Richard DeMay

**Autopsy**
- Handbook of Autopsy Practice, by Jurgen Ludwig
- Autopsy Performance and Reporting, by the College of American Pathologists

**Journals**
- American Journal of Surgical Pathology
- American Journal of Clinical Pathology
- Archives of Pathology & Laboratory Medicine
SUGGESTED REFERENCES AND READING RESOURCES

- Modern Pathology
- Advances in Anatomic Pathology
- Pathology—Journal of the RCPA
- Diagnostic Histopathology
- New England Journal of Medicine

Web Sites and Internet Resources

General
www.pathologyoutlines.com
www.pathologylinks.com (large compendium of pathology links)
www.pathpedia.com
www.ipathology.com
www.pathmax.com
www.labtestsonline.org
www.labmedica.com
www.martindalecenter.com
www.freemedicaljournals.com
www.medscape.com
www.iarc.fr/en/publications/pdfs-online/pat-gen (John Hopkins unknown cases)

Practice Resources, Protocols, Evidence-based Medicine, QA/QI, Misc.
www.uptodate.com (provided free of charge by Ministry of Health)
www.cap.org (cancer protocols, reporting, etc.)
www.medal.org (a gazillion medical algorithms)
www.nccn.org/professionals/physician_gls/f_guidelines.asp#site
www.essentialevidenceplus.com (comprehensive references)
www.skyscape.com (text and online manuals, etc.)
https://www.clinicalkey.com/#/1/
www.webmicroscope.net

Immunohistochemistry
www.nordiqc.org
www.e-immunohistochemistry.info
https://immunoquery.pathiq.com/PathIQ/Login.do

Dermatopathology
www.mdlive.net/dermpath.htm (online lectures)
Neuropathology
www.neuropat.dote.hu

Hematopathology
https://med.uth.edu/pathology/courses/hematopathology/
http://pleiad.umdnj.edu/hemepath/default.html
www.ehatol.org
www.hmds.info/Home.aspx

Molecular Pathology and Cytogenetics
www.amp.org
www.cmgs.org/
http://atlasgeneticsoncology.org/
http://cgap.nci.nih.gov
www.molecular-cancer.com/content?sort=Review

Teaching files and slides review:
- Current cases
- Archival material (resident and pathologist teaching files)
SCFHS POLICIES AND PROCEDURES

Please download the of App application for further information regarding postgraduate programs activities and rules and regulations. (link below)
https://appsto.re/us/hmh45.i (on iOS devices)

Monitoring of training and mentoring

Each resident will have a logbook and a checklist to be reviewed by the supervisor and the program directors by the end of each rotation.

It is the responsibility of each supervisor to ensure the completeness of the training requirement each year for his/her allocated resident and to forward a letter to the program director confirming that completion. Otherwise, the rotations for the next year have to be modified accordingly.

Each local program director has to review the logbook and the checklist of his/her allocated R5 residents to ensure completeness of training for the final exam and must notify the program director of this at least six months before the board examination date.

It is advisable for the resident to have a mentor all through his/her five-year training period. The mentor will follow up on the completion of required training during the five-year program and before the resident appears for the final exam. Alterations can be made if/as needed and according to availability. Guidelines are published on app application for postgraduate studies.

Vacations, leaves of absence, and educational leave

Vacation
In accordance with the SCFHS training rules and regulation, the trainee is entitled to an annual leave of thirty days in addition to one of the Eid leaves.

Sick leaves, maternity leaves, and exceptional “emergency” leaves for a period not exceeding ninety days shall be compensated for with an equivalent period of days before the trainee is awarded the certificate of training completion.

Leaves that are not utilized in due time within the year shall not be shifted to the following year.

Educational leave
The training-program director may, in coordination with the chairman of the Regional Training Committee, grant the trainee a special leave not exceeding seven days per training year for scientific purposes. This leave may be used to attend scientific conferences or seminars in the resident’s specialty or a related specialty, if the resident presents proof of attendance at such activities.
REFERENCES

   http://www.med.uottawa.ca/pathology/eng/postgrad_ap_goals_objectives.html
7. ACGME Program Requirements for Graduate Medical Education in Anatomic Pathology and Clinical Pathology
APPENDICES
Appendix A

Royal College of Physicians and Surgeons of Canada (RCPSC)

About CANMEDS
As described on the Web site of the Royal College of Canada (http://www.royalcollege.ca/portal/page/portal/rc/resources/aboutcanmeds), the CanMEDS is an educational framework identifying and describing seven roles that lead to optimal health and healthcare outcomes: medical expert (central role), communicator, collaborator, manager, health advocate, scholar, and professional. The overarching goal of CanMEDS is to improve patient care. The model has been adapted around the world in the health professions and other professions.

Objectives of Training in the Specialty of Anatomic Pathology (2013)

Definition
Anatomic pathology is the branch of laboratory medicine concerned with the study of the morphologic aspects of disease. It includes the subdomains of cytopathology, gynecological pathology, dermatopathology, gastrointestinal pathology, cardiovascular pathology, respiratory pathology, musculoskeletal pathology, renal pathology, genito-urinary pathology, endocrine pathology, ophthalmic pathology, head and neck pathology, neuropathology, pediatric pathology, forensic pathology, and certain laboratory methods including but not limited to immunohistochemistry, immunofluorescence, in situ hybridization, flow cytometry, molecular pathology, and electron microscopy.

Goals
Upon completion of training, a resident is expected to be a competent specialist in anatomic pathology and capable of assuming a consultant’s role in the specialty. The resident must acquire a working knowledge of the theoretical basis of the specialty, including its foundations in the basic medical sciences and research.

Residents must demonstrate the requisite knowledge, skills, and attitudes for effective patient-centered care and service to a diverse population. In all aspects of specialist practice, the graduate must be able to address issues of gender, sexual orientation, age, culture, ethnicity, and ethics in a professional manner.
Anatomic Pathology CanMEDS Competencies
At the completion of training, the resident will have acquired the following competencies and will function effectively as a:

**Medical Expert**

**Definition**
As medical experts, anatomic pathologists integrate all of the CanMEDS Roles, applying medical knowledge, clinical skills, and professional attitudes in their provision of patient-centered care. The medical expert is the central physician role in the CanMEDS framework.

Key and enabling competencies: Anatomic pathologists are able to

1. Function effectively as consultants, integrating all of the CanMEDS roles to provide optimal, ethical, and patient-centered medical care
   - Perform a pathology consultation, including the preparation of a complete report and recommendations in response to a request from another healthcare professional or a medico-legal authority (e.g., coroner)
   - Demonstrate use of all CanMEDS competencies relevant to anatomic pathology
   - Identify and appropriately respond to relevant ethical issues arising in patient care and medical decision making
   - Demonstrate the ability to prioritize professional duties when faced with multiple cases and problems
   - Demonstrate compassionate and patient-centered care
   - Demonstrate medical expertise in situations other than patient care, such as providing expert legal testimony or advising governments, as needed

2. Establish and maintain clinical knowledge, skills, and attitudes appropriate to anatomic pathology
   - Apply knowledge of the clinical and fundamental biomedical sciences relevant to anatomic pathology, including:
     - Normal anatomy, physiology, and biochemistry
     - General principles of embryologic development and common variations of normal development
     - Basic principles of cell biology, immunology, and pathogenesis and the changes that occur in disease states
     - Normal gross, light microscopic, and ultrastructural appearance of tissues
     - Appearance of normal cells in cytologic preparations
     - Principles of tissue fixation, decalcification, processing, and routine histochemical staining
     - Gross and microscopic appearances of tissues in disease states
     - Cytological appearance of cells in disease states, both in non-gynecologic and gynecologic preparations
     - Principles of and indications for ancillary diagnostic techniques:
       - Immunofluorescent microscopy
APPENDICES

~ Immunohistochemistry and in situ hybridization (ISH), including fluorescent in situ hybridization (FISH)
~ Cytogenetics
~ Molecular pathology
~ Flow cytometry
~ Special histochemical stains
~ Transmission electron microscopy
~ Digital microscopy
  o Describe the CanMEDS framework of competencies relevant to anatomic pathology
  o Apply lifelong learning skills of the scholar role to implement a personal program to keep up to date and enhance areas of professional competence
  o Contribute to the enhancement of quality care and patient safety in anatomic pathology, integrating the available best evidence and best practices

3. Perform a complete and appropriate assessment of a case
  o Obtain a relevant clinical history
  o Identify and explore clinical issues to be addressed in the pre-analytical, analytical, and post-analytical handling of a case
  o Assess specimen adequacy in surgical and cytopathology specimens
  o Perform a pathological examination that is focused and relevant
  o Formulate a differential diagnosis based on the pathological examination
  o Select ancillary techniques judiciously in a resource-effective and ethical manner
  o Establish a final diagnosis that takes into account clinical correlations
  o Generate a clear, concise report that enhances patient management
  o Communicate the findings in a timely fashion, with appropriate documentation

4. Demonstrate proficient and appropriate use of diagnostic and procedural skills
  o Demonstrate effective, appropriate, and timely performance of diagnostic procedures relevant to anatomic pathology
    - Perform a complete adult and pediatric postmortem examination, with appropriate full description and diagnosis at gross and microscopic levels
    - Perform a complete forensic autopsy, including but not limited to toxicologic examination and the submission of specimens to the forensic sciences laboratory
    - Interpret the findings of postmortem examinations in the context of the relevant clinical history
    - Prepare and diagnose frozen sections, including but not limited to the preparation of imprint cytology specimens
    - Demonstrate appropriate dissection, description, and sampling of surgical specimens for routine and ancillary procedures
    - Take high-quality gross and microscopic photographs of specimens
    - Demonstrate safe practices in the laboratory, frozen-section room, and autopsy suite to minimize occupational risk
Ensure appropriate informed consent has been obtained for autopsies, genetic testing, research, or other tests as required
- Describe the provincial and institutional rules governing consent for postmortem examinations

Ensure adequate follow-up is arranged when a pathologist performs a diagnostic procedure

Use diagnostic and preventive interventions appropriately
- Utilize appropriate ancillary techniques, including but not limited to molecular cytogenetics, for family counseling and screening
- Recognize patterns of familial cancer syndromes, using appropriate ancillary tests to guide genetic counseling
- Utilize other areas of laboratory medicine, including but not limited to microbiology, for diagnosis and preventive interventions

Demonstrate effective use of digital microscopy and interpretation of gross and microscopic digital images, including digitized and scanned slides
- Demonstrate knowledge of the principles of telepathology

5. Seek appropriate consultation, recognizing the limits of their own expertise
- Demonstrate insight into their own limits of expertise
- Demonstrate effective, appropriate, and timely consultation of another pathologist as needed for optimal patient care
- Recognize situations where there is a need to consult other health professionals
- Recommend relevant follow-up services for a patient and/or the patient’s family

Communicator

Definition:
As communicators, the primary role of anatomic pathologists is to effectively transmit diagnostic information to clinicians in both verbal and written form.

Key and enabling competencies: Anatomic pathologists are able to...

1. Convey effective oral and written information about a case
- Prepare clear, concise, comprehensive, and timely written reports for surgical pathology, cytopathology, and autopsy consultations
  - Use synoptic and other standardized reporting formats as appropriate
  - Integrate information from ancillary studies and other sources into the pathology report
  - Convey diagnostic uncertainty and recommend additional studies when needed
  - Communicate critical values or unexpected results in a timely manner
- Interact effectively with surgeons during intra-operative consultations
  - Convey diagnostic uncertainty and discuss deferral of diagnosis when needed
- Present and discuss pathology cases effectively at clinical rounds
2. Develop rapport and trust as well as ethical and professional relationships with clinical colleagues

| o | Recognize that being a good communicator is a core clinical skill for pathologists and that effective communication can foster patient satisfaction, physician satisfaction, and improved clinical outcomes |
| o | Establish positive professional relationships characterized by understanding, trust, respect, and honesty with clinical colleagues |
| o | Respect patient confidentiality and privacy |
| o | Listen effectively, and be aware of and responsive to nonverbal cues |

3. Accurately elicit and synthesize relevant clinical and pathological information and perspectives of patients and families, colleagues, and other professionals

| o | Gather information about a disease and about a patient’s beliefs, concerns, and expectations |
| o | Seek out and synthesize relevant information from other sources as appropriate |

4. Accurately convey relevant information and explanations to colleagues and other professionals, as well as patients and families when appropriate

| o | Deliver information to patients and families as well as colleagues and other professionals in a humane manner and in such a way that it is understandable and encourages discussion and participation in decision making |

5. Develop a common understanding on issues, problems, and plans with patients, families, and other professionals

| o | Respect diversity and difference, including but not limited to the impact of gender, religion, and cultural beliefs on decision making |
| - | Ensure appropriate communication with patients and/or family members with respect to the handling of surgical and postmortem procedures in the context of a multicultural society |
| o | Encourage discussion, questions, and interaction relevant to the case |
| o | Address challenging communication issues effectively, such as obtaining informed consent, delivering bad news, disclosing errors, and addressing anger, confusion, and misunderstanding |
| - | Appropriately communicate and document issues arising from adverse incidents |
Collaborator

Definition
As collaborators, anatomic pathologists effectively work within a healthcare team to achieve optimal patient care.

Key and enabling competencies: Anatomic pathologists are able to:

1. Participate effectively and appropriately in an interprofessional healthcare team
   - Describe the pathologist’s roles and responsibilities to other professionals
   - Describe the roles and responsibilities of other professionals within the health care team, including but not limited to administrators and support staff
   - Recognize and respect the diversity of roles, responsibilities, and competencies of other professionals in relation to their own
   - Work with others to assess, plan, provide, and integrate care for individuals and groups of patients
     - Collaborate with clinical colleagues to help with the development and implementation of a management plan when appropriate
   - Work with others to assess, plan, provide, and review other tasks such as research problems, educational work, program review, or administrative responsibilities
   - Participate effectively in interprofessional team meetings
   - Explain the role of intra- and extra-departmental review of diagnostic material
   - Enter into interdependent relationships with other professions for the provision of quality care
     - Provide advice to clinical colleagues regarding histologic and cytologic specimen collection and handling
     - Discuss indications for appropriate use of intra-operative and urgent consultations
   - Respect team ethics, including confidentiality, resource allocation, and professionalism
   - Demonstrate leadership in a healthcare team, as appropriate

2. Work with other health professionals effectively to prevent, negotiate, and resolve interprofessional conflict
   - Demonstrate a respectful attitude towards other colleagues and members of an interprofessional team
   - Work with other professionals to prevent conflicts
   - Employ collaborative negotiation to resolve conflicts
   - Respect differences and address misunderstandings and limitations in other professionals
   - Recognize one’s own differences, misunderstandings, and limitations that may contribute to interprofessional tension
   - Reflect on interprofessional team function
Manager

Definition:
As managers, anatomic pathologists are integral participants in healthcare organizations, organizing sustainable practices, making decisions about allocating resources, and contributing to the effectiveness of the healthcare system. Anatomic pathologists are central to quality management within the laboratory, and by extension, to the quality of healthcare.

Key and enabling competencies: Anatomic pathologists are able to:

1. Participate in activities that contribute to the effectiveness of their healthcare organizations and systems
   - Work collaboratively with others in their organizations
   - Describe the structure and function of the healthcare system as it relates to anatomic pathology, including the roles of pathologists and other physicians
   - Describe principles of healthcare financing, including physician remuneration, budgeting, and organizational funding
   - Explain the principles of and participate in quality control, quality assurance, and quality improvement
     - Identify and explore issues to be addressed in the pre-analytic, analytic, and post-analytic stage of specimen handling
     - Demonstrate expertise in laboratory safety initiatives

2. Manage their practice and career effectively
   - Set priorities and manage time to balance clinical workload, practice requirements, outside activities, and personal life
     - Describe the principles of workload measurement within the laboratory
   - Demonstrate an understanding of the principles of laboratory management, including but not limited to collaboration with technical managers and hospital and laboratory administration
   - Implement processes to ensure improvement of personal practice
   - Employ information technology appropriately

3. Allocate finite healthcare resources appropriately
   - Recognize the importance of just allocation of healthcare resources, balancing effectiveness, efficiency, and access with optimal patient care
   - Apply evidence and management processes for cost-appropriate care

4. Serve in administration and leadership roles, as appropriate
   - Chair or participate effectively in committees and meetings
   - Lead or implement change in healthcare as appropriate
   - Plan relevant elements of healthcare delivery (e.g., work schedules)
Health Advocate

Definition:
As health advocates, anatomic pathologists responsibly use their expertise and influence to advance the health and well-being of individual patients, communities, and populations.

Key and enabling competencies: Anatomic pathologists are able to:

1. Respond to diagnostic needs and issues of individual patients as part of patient care
   - Identify opportunities for advocacy, health promotion, and disease prevention with individuals to whom they provide care

2. Respond to the health needs of the communities they serve
   - Describe the practice communities they serve
   - Identify opportunities for advocacy, health promotion, and disease prevention in the communities they serve and respond appropriately

3. Identify the determinants of health for the populations they serve
   - Identify the determinants of health of the populations they serve, including barriers to access to care and resources
     - Evaluate laboratory practices and test selection regularly to ensure they meet community needs
   - Identify vulnerable or marginalized populations within the communities served and respond appropriately

4. Promote the health of individual patients, communities, and populations
   - Describe an approach to implementing a change in a determinant of health of the populations they serve
   - Describe the importance of screening in the early detection and treatment of certain cancers, including but not limited to gynecological cancer
   - Describe the role of molecular methods used to screen for familial cancer syndromes
   - Describe how public policy impacts the health of the populations served
   - Describe the role and demonstrate an understanding of the ethics of genetic screening in family planning and for hereditary cancers
   - Identify points of influence in the healthcare system and its structure
     - Reinforce to the public and to the profession the essential contribution of laboratory medicine to health
   - Describe the ethical and professional issues inherent in health advocacy, including altruism, social justice, autonomy, integrity, and idealism
   - Appreciate the possibility of conflict inherent in their role as a health advocate for a patient or community with that of a manager or gatekeeper
Describe the role of the medical profession in advocating collectively for health and patient safety

Demonstrate the ability to recognize instances of child abuse and elder abuse in pathology practice

**Scholar**

**Definition:**
As scholars, anatomic pathologists demonstrate a lifelong commitment to reflective learning as well as to the creation, dissemination, application, and translation of medical knowledge.

Key and enabling competencies: Anatomic pathologists are able to:

<table>
<thead>
<tr>
<th>1. Maintain and enhance professional activities through ongoing learning</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Describe the principles of maintenance of competence</td>
</tr>
<tr>
<td>o Describe the principles and strategies for implementing a personal knowledge-management system</td>
</tr>
<tr>
<td>o Recognize and reflect on learning issues in practice</td>
</tr>
<tr>
<td>o Conduct personal practice audits</td>
</tr>
<tr>
<td>o Pose an appropriate learning question</td>
</tr>
<tr>
<td>o Access and interpret the relevant evidence</td>
</tr>
<tr>
<td>o Integrate new learning into practice</td>
</tr>
<tr>
<td>o Evaluate the impact of any change in practice</td>
</tr>
<tr>
<td>o Document the learning process</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2. Critically evaluate medical information and its sources and apply it appropriately to practice decisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Describe the principles of critical appraisal</td>
</tr>
<tr>
<td>o Critically appraise retrieved evidence in order to address a clinical or laboratory question</td>
</tr>
<tr>
<td>o Integrate critical appraisal conclusions into practice</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3. Facilitate the learning of other health professionals, residents, students, patients, families, the public, and others, as appropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td>o Describe principles of learning relevant to medical education</td>
</tr>
<tr>
<td>o Identify collaboratively the learning needs and desired learning outcomes of others</td>
</tr>
<tr>
<td>o Select effective teaching strategies and content to facilitate others’ learning</td>
</tr>
<tr>
<td>o Deliver an effective lecture or presentation</td>
</tr>
<tr>
<td>o Assess and reflect on a teaching encounter</td>
</tr>
<tr>
<td>o Provide effective and constructive feedback</td>
</tr>
<tr>
<td>o Describe the principles of ethics with respect to teaching</td>
</tr>
</tbody>
</table>
4. Contribute to the development, dissemination, and translation of new knowledge and practices
   - Describe the principles of research and scholarly inquiry
   - Describe the principles of research ethics
   - Describe the principles of tissue acquisition for research
   - Pose a scholarly question and formulate a plan to answer the question
   - Conduct a systematic search for evidence
   - Select and apply appropriate methods to address the question
   - Disseminate the findings of a study
   - Complete a scholarly project

**Professional**

**Definition:**
As professionals, anatomic pathologists are committed to the health and well-being of individuals and society through ethical practice, profession-led regulation, and high personal standards of behavior.

Key and enabling competencies: Anatomic pathologists are able to:

1. **Demonstrate a commitment to their patients, profession, and society through ethical practice**
   - Exhibit appropriate professional behaviors in practice, including honesty, integrity, commitment, compassion, respect, and altruism
   - Demonstrate a commitment to delivering the highest quality of care and maintenance of competence
   - Recognize and appropriately respond to ethical issues encountered in practice
   - Recognize and manage conflicts of interest
   - Recognize the principles and limits of patient confidentiality as defined by professional practice standards and the law
   - Maintain appropriate boundaries with colleagues, other health professionals, laboratory staff, students, and patients

2. **Demonstrate a commitment to their profession, clinical colleagues, patients, and society through participation in profession-led regulation**
   - Demonstrate knowledge and understanding of the professional, legal, and ethical codes of practice, including but not limited to:
     - Local regulations regarding the reporting of deaths to the medical examiner or coroner
     - Conducting forensic investigations
     - Principles and practice of presenting pathologic evidence in a court of law
   - Fulfill the regulatory and legal obligations required of current practice, including but not limited to timely reporting of cases and of critical values
- Demonstrate knowledge of the policies on reportable diseases, including but not limited to infectious diseases
  - Demonstrate accountability to professional regulatory bodies
  - Demonstrate awareness of professional and institutional codes of conduct and respond appropriately to breaches in these codes
  - Participate in peer review

3. **Demonstrate a commitment to physician health and sustainable practice**
   - Balance personal and professional priorities to ensure personal health and a sustainable practice
   - Strive to heighten personal and professional awareness and insight
   - Recognize other professionals in need and respond appropriately

This document is to be reviewed by:
The Specialty Committee in Anatomical Pathology by December 31, 2014.
Revised – Specialty Committee – January 2013 and May 2013
Approval – Specialty Standards Review Committee – February 2013
### Appendix B

**Academic Half-Day Core Lectures**

<table>
<thead>
<tr>
<th>Month</th>
<th>Year 1</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>October</td>
<td>Forensic pathology</td>
<td>Esophageal and gastric pathology</td>
</tr>
<tr>
<td>October</td>
<td>Non-neoplastic neuropathology</td>
<td>Pancreatic tumors</td>
</tr>
<tr>
<td>November</td>
<td>Neoplastic neuropathology</td>
<td>Pediatric liver (tumors + non tumors)</td>
</tr>
<tr>
<td>November</td>
<td>Cervical cytology</td>
<td>Adult liver (tumors + non tumors)</td>
</tr>
<tr>
<td>December</td>
<td>Pathology of cervix, vagina, and vulva</td>
<td>Colorectal non-neoplastic pathology</td>
</tr>
<tr>
<td>December</td>
<td>Endometrium and myometrium pathology</td>
<td>Colorectal tumors</td>
</tr>
<tr>
<td>January</td>
<td>Ovarian tumors</td>
<td>Thyroid, parathyroid, and adrenal pathology</td>
</tr>
<tr>
<td>January</td>
<td>Placenta + gestational trophoblastic diseases</td>
<td>Salivary gland pathology</td>
</tr>
<tr>
<td>February</td>
<td>Mediastinal tumors + pleural lesions</td>
<td>Sinonasal pathology + Odontogenic tumors</td>
</tr>
<tr>
<td>February</td>
<td>Interstitial lung diseases</td>
<td>Skin – melanocytic lesions</td>
</tr>
<tr>
<td>March</td>
<td>Neoplastic pulmonary pathology</td>
<td>Skin – non-melanocytic tumors</td>
</tr>
<tr>
<td>March</td>
<td>Cardiac pathology (grossing + tumors + valve pathology)</td>
<td>Skin – non-neoplastic pathology</td>
</tr>
<tr>
<td>April</td>
<td>Basics of molecular pathology</td>
<td>Breast pathology</td>
</tr>
<tr>
<td>April</td>
<td>Soft tissue tumors part 1</td>
<td>Medical renal pathology</td>
</tr>
<tr>
<td>May</td>
<td>Soft tissue tumors part 2</td>
<td>Pediatric and adult renal neoplasms and cysts</td>
</tr>
<tr>
<td>May</td>
<td>Bone and cartilage tumors</td>
<td>Prostate tumors and mimickers</td>
</tr>
<tr>
<td>June</td>
<td>Non Gyn cytology part 1</td>
<td>Bladder pathology</td>
</tr>
<tr>
<td>June</td>
<td>Non Gyn cytology part 2</td>
<td>Lab management and quality</td>
</tr>
</tbody>
</table>

**Lymphoma course**

9 lectures/year

(Intro + reactive + BCL + TCL + Hodgkin + Spleen)
## Appendix C

### TEACHING SESSIONS (EXAMPLE: KFSH-RIYADH)

Anatomic Pathology Case Review by Subspecialty - Multi-head Microscope Room

<table>
<thead>
<tr>
<th>Monday</th>
<th>Subspecialty/Pathologists</th>
<th>Tuesday</th>
<th>Subspecialty/Pathologists</th>
<th>Wednesday</th>
<th>Subspecialty/Pathologists</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 23, 2015</td>
<td><strong>Gyne/Breast</strong> Dr. A. Tulbah Dr. M. Akhtar</td>
<td>March 24, 2015</td>
<td><strong>Endocrine</strong> Dr. H. Al Hindi</td>
<td>March 25, 2015</td>
<td><strong>Cytology</strong> Dr. H. Khoja</td>
</tr>
<tr>
<td>March 30, 2015</td>
<td><strong>Head &amp; Neck</strong> Dr. M. Dababo Dr. H. Khoja</td>
<td>March 31, 2015</td>
<td><strong>Bone &amp; Soft Tissue</strong> Dr. F. Al Dayel Dr. H. Khoja Dr. T. Al Zaid</td>
<td>April 1, 2015</td>
<td><strong>GU</strong> Dr. M. Akhtar</td>
</tr>
<tr>
<td>April 6, 2015</td>
<td><strong>Cytology</strong> The pathologist who was covering the previous week</td>
<td>April 7, 2015</td>
<td><strong>GI &amp; Liver</strong> Dr. H. Al Mana Dr. H. Al Hussaini</td>
<td>April 8, 2015</td>
<td><strong>Skin</strong> Dr. T. Zaid</td>
</tr>
<tr>
<td>April 13, 2015</td>
<td><strong>Lung/CVS</strong> Dr. F. Al Dayel Dr. S. Mohammed</td>
<td>October 28, 2014</td>
<td><strong>Renal</strong> Dr. T. Al Hussain Dr. M. Akhtar Dr. H. Al Mana</td>
<td>October 29, 2014</td>
<td><strong>CAP/RCPA Slides Review</strong></td>
</tr>
<tr>
<td>November 10, 2014</td>
<td><strong>Head &amp; Neck</strong> Dr. M. Dababo Dr. H. Khoja</td>
<td>November 11, 2014</td>
<td><strong>Bone &amp; Soft Tissue</strong> Dr. F. Al Dayel Dr. H. Khoja Dr. T. Al Zaid</td>
<td>November 12, 2014</td>
<td><strong>GU</strong> Dr. M. Akhtar</td>
</tr>
</tbody>
</table>

**Note:** Lymphoma pathology and neuropathology sessions are conducted twice a month each as extra sessions. Wednesday: General surgical pathology session (Dr. Akhtar)
# Riyadh Pathology Group Meeting 2015–2016

Organizer: Dr. Hisham Al-Khaldi

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Date</th>
<th>Hospital / Venue</th>
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<tbody>
<tr>
<td>1</td>
<td>September 6, 2015</td>
<td>King Fahad Medical City</td>
</tr>
<tr>
<td></td>
<td>22nd of Dhu Al-Qadah, 1436</td>
<td></td>
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<tr>
<td>2</td>
<td>October 4, 2015</td>
<td>Prince Sultan Military Medical City (RKH)</td>
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<tr>
<td></td>
<td>21st of Dhu Al-Hijjah, 1436</td>
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<td>3</td>
<td>November 1, 2015</td>
<td>King Abdulaziz Medical City for National Guards</td>
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<tr>
<td></td>
<td>19th of Muharram, 1437</td>
<td></td>
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<tr>
<td>4</td>
<td>December 6, 2015</td>
<td>King Faisal Specialist Hospital &amp; Research Center</td>
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<tr>
<td></td>
<td>25th of Safar, 1437</td>
<td></td>
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<tr>
<td>5</td>
<td>January 3, 2016</td>
<td>King Khalid University Hospital</td>
</tr>
<tr>
<td></td>
<td>23rd Rabi-I, 1437</td>
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<tr>
<td>6</td>
<td>February 7, 2016</td>
<td>King Fahad Medical City</td>
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<tr>
<td></td>
<td>28th Rabi-II, 1437</td>
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<tr>
<td>7</td>
<td>March 6, 2016</td>
<td>Prince Sultan Military Medical City (RKH)</td>
</tr>
<tr>
<td></td>
<td>26th of Jumada-I, 1437</td>
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<tr>
<td>8</td>
<td>April 3, 2016</td>
<td>King Abdulaziz Medical City for National Guards</td>
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<tr>
<td></td>
<td>25th of Jumada-II, 1437</td>
<td></td>
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<tr>
<td>9</td>
<td>May 1, 2016</td>
<td>King Faisal Specialist Hospital &amp; Research Center</td>
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<tr>
<td></td>
<td>24th of Rajab, 1437</td>
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<tr>
<td>10</td>
<td>June 5, 2016</td>
<td>King Khalid University Hospital</td>
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<tr>
<td></td>
<td>29th of Sha’ban, 1437</td>
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</tbody>
</table>
Resident Activities (Example: Dammam University – Eastern Province)

- Morning report held twice weekly (Mondays and Thursdays from 8:00–9:00 am). All residents and consultants are expected to attend. Cases received during the week are reviewed by the resident on duty and discussed by the participants if necessary. Results are recorded in a special form and maintained in a special file.
- Two one-hour weekly activities, each presented by one of the residents and including (a) slide presentation and (b) journal club. Activity is monitored by the consultant on duty and starts at 2:00 pm on two selected days of the week (Sundays and Tuesdays).

Results are recorded in a special form and maintained in a special file.

<table>
<thead>
<tr>
<th>Timings</th>
<th>Sunday</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 am – 9 am</td>
<td></td>
<td>Morning report</td>
<td></td>
<td></td>
<td>Morning report</td>
</tr>
<tr>
<td>9 am – 10 am</td>
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<tr>
<td>2 pm – 3 pm</td>
<td>Journal Club</td>
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<td>Slide presentation</td>
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- The Eastern Province Pathology Club meeting is held monthly (on the last Tuesday of the month).

Note: All residents must attend 75% of departmental and local educational activities before they can be guaranteed an outside educational leave.
Appendix D

ANATOMIC PATHOLOGY
SURGICAL PATHOLOGY—END-ROTATION EVALUATION

<table>
<thead>
<tr>
<th>Name:</th>
<th>Level of Training:</th>
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<tbody>
<tr>
<td>Period:</td>
<td>Registration Number:</td>
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<td>Center:</td>
<td>Program Director:</td>
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### Explanatory Notes

<table>
<thead>
<tr>
<th>Resident evaluation by faculty</th>
<th>Failed to meet expectations:</th>
<th>Inconsistently met expectations:</th>
<th>Consistently met expectations:</th>
<th>Sometimes exceeded expectations:</th>
<th>Consistently exceeded expectations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall performance compared to others at the same PGY level, linked to ITER ratings</td>
<td>Consistently absent from work</td>
<td>Several unexcused absences during rotation</td>
<td>Was punctual for work and arrived prepared</td>
<td>Substantially contributed to efficient team functioning</td>
<td>Successfully integrated clinicopathologic information to generate complete and accurate surgical pathology reports</td>
</tr>
<tr>
<td>Consistently negative attitude</td>
<td>Clear lack of interest in subject matter</td>
<td>Was receptive to feedback and consistently pleasant to all colleagues</td>
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SAUDI BOARD ANATOMIC PATHOLOGY CURRICULUM
<table>
<thead>
<tr>
<th>Resident evaluation by faculty</th>
<th>Failed to meet expectations:</th>
<th>Inconsistently met expectations:</th>
<th>Consistently met expectations:</th>
<th>Sometimes exceeded expectations:</th>
<th>Consistently exceeded expectations:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baseline knowledge and diagnostic ability were significantly below expectation for resident’s level of training</td>
<td>Baseline medical knowledge and diagnostic ability exceeded expectations for resident’s level of training</td>
<td>Baseline medical knowledge and diagnostic ability exceeded expectations for resident’s level of training</td>
<td>Baseline medical knowledge and diagnostic ability exceeded expectations for resident’s level of training</td>
<td>Is ready to practice surgical pathology independently</td>
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</tr>
<tr>
<td>Inability to improve despite mid-rotation feedback</td>
<td>Severe deficits in baseline knowledge and diagnostic ability</td>
<td>Baseline medical knowledge and diagnostic ability met expectations</td>
<td>Baseline medical knowledge and diagnostic ability met expectations for resident’s level of training</td>
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<tr>
<td>Failure to respond to feedback</td>
<td>Showed active desire to improve</td>
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Scoring Key:

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<tr>
<th>Performance level</th>
<th>Fails to meet expectations**</th>
<th>Inconsistently meets expectations</th>
<th>Consistently meets expectations</th>
<th>Sometimes exceeds expectations</th>
<th>Consistently exceeds expectations</th>
<th>Not applicable</th>
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<td>&gt; 7 - 8.5</td>
<td>&gt; 8.5 - 10</td>
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**Must provide explanation
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<th>R4/R5</th>
<th>SCORE (OUT OF 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MICROSCOPY</strong></td>
<td></td>
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<tr>
<td><strong>FROZEN SECTION</strong></td>
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<tr>
<td><strong>MICROSCOPY</strong></td>
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</tbody>
</table>

**MICROSCOPY**

<table>
<thead>
<tr>
<th>R1</th>
<th>R2/R3</th>
<th>R4/R5</th>
<th>SCORE (OUT OF 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MICROSCOPY</strong></td>
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<tr>
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<td><strong>MICROSCOPY</strong></td>
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**MICROSCOPY**

<table>
<thead>
<tr>
<th>R1</th>
<th>R2/R3</th>
<th>R4/R5</th>
<th>SCORE (OUT OF 10)</th>
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</thead>
<tbody>
<tr>
<td><strong>MICROSCOPY</strong></td>
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<tr>
<td><strong>FROZEN SECTION</strong></td>
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<tr>
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</tbody>
</table>

**MICROSCOPY**

<table>
<thead>
<tr>
<th>R1</th>
<th>R2/R3</th>
<th>R4/R5</th>
<th>SCORE (OUT OF 10)</th>
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</thead>
<tbody>
<tr>
<td><strong>MICROSCOPY</strong></td>
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<tr>
<td><strong>FROZEN SECTION</strong></td>
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<tr>
<td><strong>MICROSCOPY</strong></td>
<td></td>
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</tbody>
</table>

**MICROSCOPY**

<table>
<thead>
<tr>
<th>R1</th>
<th>R2/R3</th>
<th>R4/R5</th>
<th>SCORE (OUT OF 10)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MICROSCOPY</strong></td>
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<tr>
<td><strong>FROZEN SECTION</strong></td>
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<tr>
<td><strong>MICROSCOPY</strong></td>
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</tr>
<tr>
<td>R1</td>
<td>R2/R3</td>
<td>R4/R5</td>
<td>SCORE (OUT OF 10)</td>
</tr>
<tr>
<td>----</td>
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<td>-------------------</td>
</tr>
<tr>
<td><strong>CATEGORY A</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CYTOLOGY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1</strong></td>
<td>Recognizes normal cytological findings of commonly sampled organs</td>
<td>Demonstrates adequate performance during sign-out</td>
<td>Able to make to an accurate diagnosis</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Recognizes cytological preparations and techniques</td>
<td>Has the ability to provide a clear microscopic description of presented cytological material and to generate an appropriate differential diagnosis proportional to the level of training</td>
<td>Analyzes complex cases, performs thorough literature review, and makes necessary clinical and radiological correlations</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Attends and performs fine-needle aspiration sessions/clinics</td>
<td>Attends and performs fine-needle aspiration sessions/clinics</td>
<td></td>
</tr>
<tr>
<td><strong>GENERAL</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>1</strong></td>
<td>Acceptable knowledge in basic pathology</td>
<td>Acceptable knowledge in basic pathology</td>
<td>Performance of online chart reviews and radiological reviews to integrate with the pathological findings</td>
</tr>
<tr>
<td><strong>2</strong></td>
<td>Familiarity with laboratory safety policies and procedures</td>
<td>Performance of online chart reviews and radiological reviews to integrate with the pathological findings</td>
<td>Recognition of self-limitations and awareness of when to seek advice</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td>Acquired general knowledge about fixatives, stains, technical methodologies, and tissue fixation</td>
<td>Recognition of self-limitations and awareness of when to seek advice</td>
<td>Responsibility for the equipment entrusted to him/her</td>
</tr>
<tr>
<td><strong>4</strong></td>
<td>Responsibility for the equipment entrusted to him/her</td>
<td>Responsibility for the equipment entrusted to him/her</td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL SCORE OF CATEGORY A (OUT OF 70)</strong></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>[Total score/No. of evaluated items x 7]</td>
</tr>
</tbody>
</table>
## CATEGORY B

<table>
<thead>
<tr>
<th></th>
<th><strong>COMMUNICATOR</strong></th>
<th></th>
<th></th>
<th><strong>SCORE (OUT OF 10)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Communicates efficiently with staff in the lab and clinical peers and colleagues and does so with a positive attitude</td>
<td>Communicates efficiently with staff in the lab and clinical peers and colleagues and does so with a positive attitude</td>
<td>Communicates efficiently with staff in the lab and clinical peers and colleagues and does so with a positive attitude</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Responds appropriately to constructive feedback</td>
<td>Responds appropriately to constructive feedback</td>
<td>Is a role model for juniors in receiving and giving constructive feedback</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Speaks and writes English correctly</td>
<td>Speaks and writes English correctly, with reliable pathology reporting skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>Is able to convey equivocal findings or atypical findings in a clear and proper manner that is comprehensible to clinical colleagues</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th><strong>COLLABORATOR</strong></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Realizes the importance of clinical findings in formulating a reasonable differential diagnosis</td>
<td>Understands the role of intra- and extra-departmental review of diagnostic material</td>
<td>Routinely communicates with clinical colleagues to formulate a narrow differential diagnosis</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Consultiect effectively with other staff members and is a team player</td>
<td>Consults effectively with other staff members and is a team player</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>Prepares and presents in multidisciplinary case conferences with the presence of the pathologist</td>
<td></td>
</tr>
<tr>
<td>R1</td>
<td>R2/R3</td>
<td>R4/R5</td>
<td>SCORE (OUT OF 10)</td>
<td></td>
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<td>----</td>
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<td></td>
</tr>
<tr>
<td><strong>CATEGORY B</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>MANAGER/LEADER</strong></td>
<td></td>
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</tr>
<tr>
<td>1</td>
<td>Is reliable according to his/her level of training</td>
<td>Is reliable according to his/her level of training</td>
<td>Is efficient on a busy service in grossing all specimens, reviewing virtually all cases, teaching junior residents, and presenting at tumor boards</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Manages time effectively to the best of his/her capabilities</td>
<td>Recognizes his/her limitations and is capable of seeking assistance when required</td>
<td>Allocates resources effectively</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Learns the principles and practice of quality assurance</td>
<td>Manages time effectively</td>
<td>Understands the importance of IHC control in every run</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Understands the clinical importance of turnaround time in pathology reporting</td>
<td>Acknowledges self-limitations and knows when to seek help</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Is beginning to understand ordering practices and is aware of appropriate and inappropriate ordering</td>
<td>Takes quality-assurance deficits into account</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Learns principles and contributes to the practice of quality assurance</td>
<td>Understands the clinical importance of turnaround time in pathology reporting</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>Is aware of the roles of a pathologist in managing personnel; interprets an organizational chart</td>
<td></td>
</tr>
<tr>
<td>CATEGORY B</td>
<td>R1</td>
<td>R2/R3</td>
<td>R4/R5</td>
<td>SCORE (OUT OF 10)</td>
</tr>
<tr>
<td>--------------------------------------------</td>
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</tr>
<tr>
<td>HEALTH ADVOCATE</td>
<td></td>
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</tr>
<tr>
<td>1. Recognizes the role of pathologists in</td>
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<tr>
<td>preventive measures</td>
<td></td>
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<tr>
<td>2. Recognizes the social, environmental,</td>
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<tr>
<td>and biological determinants of health</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>regionally and internationally</td>
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</tr>
<tr>
<td>SCHOLAR</td>
<td></td>
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</tr>
<tr>
<td>1. Capable of self-directed study using</td>
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<tr>
<td>appropriate texts and information sources</td>
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</tr>
<tr>
<td>2. Strives to attend rounds, presentations,</td>
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<tr>
<td>and educational conferences</td>
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<tr>
<td>3. Contributes effectively to teaching</td>
<td></td>
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</tr>
<tr>
<td>activities</td>
<td></td>
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<tr>
<td>4. Expresses serious interest in research</td>
<td></td>
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<tr>
<td>5. Participates in research</td>
<td></td>
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<tr>
<td>PROFESSIONAL</td>
<td></td>
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</tr>
<tr>
<td>1. Demonstrates ethical behavior</td>
<td></td>
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<tr>
<td>2. Diligent about attendance and</td>
<td></td>
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</tr>
<tr>
<td>punctuality</td>
<td></td>
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<tr>
<td></td>
<td>R1</td>
<td>R2/R3</td>
<td>R4/R5</td>
<td>SCORE (OUT OF 10)</td>
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<td>-----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>3</td>
<td>Practices with respect, compassion, and empathy</td>
<td>Practices with respect, compassion, and empathy</td>
<td>Practices with respect, compassion, and empathy</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Seeks guidance or advice when in need</td>
<td>Seeks guidance or advice when in need</td>
<td>Seeks guidance or advice when in need</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Realizes that people are error prone and acknowledges where errors might happen</td>
<td>Realizes that people are error prone and acknowledges where errors might happen</td>
<td>Knows how to convey diagnostic errors and discrepancies to clinical colleagues</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Takes responsibility for errors that might happen</td>
<td>Takes responsibility for errors that might happen</td>
<td>Is proactive in taking responsibility and demonstrates leadership skills</td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL SCORE OF CATEGORY B (OUT OF 30)**

[Total score/No. of evaluated items x 3]

**OVERALL COMPETENCE**

**TOTAL SCORE: CATEGORY A + CATEGORY B**
Please comment on the strengths noted during this period of training:

| Do you see significant improvement from previous encounters? | Yes | No | N/A |

Please comment on the weaknesses noted during this period of training:

| Do you see significant decline from previous encounters? | Yes | No | N/A |

Recommendation for improvement:

| Total Score: | % |
| Name of resident: | |
| Signature: | |
| Name of pathologist: | |
| Signature: | |

Resident’s comments and remarks:

| Program Director: | |
| Signature: | |

SAUDI BOARD ANATOMIC PATHOLOGY CURRICULUM
Resident Presentation Evaluation by Staff Supervisor (Example)

<table>
<thead>
<tr>
<th>Scale to evaluate the presentation</th>
<th>Very weak</th>
<th>Weak</th>
<th>Acceptable</th>
<th>Good</th>
<th>Very good</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Medical expert</td>
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</tr>
<tr>
<td>- Demonstrated thorough knowledge</td>
<td></td>
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<tr>
<td>of the topic</td>
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<tr>
<td>- Presented at an appropriate</td>
<td></td>
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<tr>
<td>level and with adequate details</td>
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<tr>
<td>Communicator</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>- Provided objectives and an</td>
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<tr>
<td>outline</td>
<td></td>
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<tr>
<td>- Presentation was clear and</td>
<td></td>
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</tr>
<tr>
<td>organized</td>
<td></td>
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</tr>
<tr>
<td>- Used clear, concise, and legible</td>
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<tr>
<td>materials</td>
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<tr>
<td>- Used effective methods/style of</td>
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<tr>
<td>presentation</td>
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<tr>
<td>- Established good rapport with</td>
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<tr>
<td>the audience</td>
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<tr>
<td>Collaborator</td>
<td></td>
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<tr>
<td>- Invited comments from learners</td>
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<tr>
<td>and led discussion</td>
<td></td>
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<tr>
<td>- Worked effectively with a staff</td>
<td></td>
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<tr>
<td>supervisor in preparing the</td>
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<tr>
<td>session</td>
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<tr>
<td>Health advocate</td>
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<tr>
<td>- Managed time effectively</td>
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<tr>
<td>- Addressed preventive aspects of</td>
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<tr>
<td>care, if relevant</td>
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<td></td>
</tr>
<tr>
<td>Scholar</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>- Posed an appropriate learning question</td>
<td></td>
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<tr>
<td>- Accessed and interpreted the relevant literature</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Professional</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>- Maintained the patient’s confidentiality, if clinical material was used</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>- Identified and managed relevant conflicts of interest</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

| TOTAL SCORE             |   |   |   |
# ACTIVITY EVALUATION FORM (EXAMPLE)

<table>
<thead>
<tr>
<th>TITLE OF SESSION:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SPEAKER:</td>
<td></td>
</tr>
<tr>
<td>PRESENTATION OBJECTIVE(S):</td>
<td></td>
</tr>
<tr>
<td>Note: Please choose only one number for the evaluation score if it is applicable.</td>
<td></td>
</tr>
</tbody>
</table>

## I. Evaluate the program content based on these criteria:

<table>
<thead>
<tr>
<th></th>
<th>Circle the number which denotes your feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Met objectives</td>
<td>very little 1 2 3 4 5 very much</td>
</tr>
<tr>
<td>Met my professional needs</td>
<td>very little 1 2 3 4 5 very much</td>
</tr>
<tr>
<td>New information gained</td>
<td>very little 1 2 3 4 5 very much</td>
</tr>
</tbody>
</table>

## II. Evaluate the presenter’s ability to meet these criteria:

<table>
<thead>
<tr>
<th></th>
<th>Circle the number which denotes your feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>unprepared 1 2 3 4 5 prepared</td>
</tr>
<tr>
<td>Held my interest</td>
<td>very little 1 2 3 4 5 very much</td>
</tr>
<tr>
<td>Method of presentation</td>
<td>poor 1 2 3 4 5 excellent</td>
</tr>
<tr>
<td>Quality and use of audiovisuals</td>
<td>poor 1 2 3 4 5 excellent</td>
</tr>
</tbody>
</table>

## III. Rate the overall quality of this presentation:

<table>
<thead>
<tr>
<th></th>
<th>1 2 3 4 5 excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>poor</td>
<td>1 2 3 4 5 excellent</td>
</tr>
</tbody>
</table>

## Comments:

<table>
<thead>
<tr>
<th>IV. Strengths and weaknesses:</th>
<th></th>
</tr>
</thead>
</table>

| V. Future recommended speaker / topics: |  |

NOTE: Receipt of this completed and signed form is necessary for receiving CME credit.

<table>
<thead>
<tr>
<th>Badge Number (required):</th>
<th>Name (optional):</th>
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<th>Saudi Council # (required):</th>
<th>Expiration Date:</th>
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</table>
### Training Center Rotation Evaluation

**Department of Pathology and Laboratory Medicine**  
**Anatomic Pathology Section**  
**TRAINING CENTER ROTATION EVALUATION**

**Duration:** ________________

**Program Leadership**

<table>
<thead>
<tr>
<th>Points</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Residency Training Committee is effective at meeting the educational needs of residents.</td>
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<tr>
<td>The Residency Training Committee is receptive to resident input.</td>
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<tr>
<td>The Program Director is available to residents.</td>
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<td>The Program Director is approachable.</td>
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<tr>
<td>My annual individual meetings with the Program Director are useful.</td>
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<tr>
<td>The orientation to the overall program is of high quality.</td>
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<tr>
<td>Administrative support is adequate.</td>
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<tr>
<td>I am kept informed of issues within the training program (may include meetings of the Program Director with the resident body, meetings with chief resident(s), and other communications from the Residency Program Committee or from administrative staff).</td>
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<tr>
<td>I can easily communicate my concerns, ideas, and/or suggestions to the Residency Program Committee.</td>
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</tbody>
</table>

Please provide comments, particularly on areas you see as needing improvement. Examples, ideas, and constructive suggestions are very welcome!
## Educational Curriculum

<table>
<thead>
<tr>
<th>Points</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>The rotation effectively explains and teaches the CanMEDS roles.</td>
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<tr>
<td>The rotation effectively evaluates the CanMEDS roles.</td>
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<tr>
<td>There is a good service/education balance in the daytime rotations.</td>
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<tr>
<td>There are opportunities for elective experiences.</td>
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<tr>
<td>The formal academic program (e.g., half-day) is useful.</td>
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<tr>
<td>Staff participation in teaching sessions is adequate.</td>
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</tbody>
</table>

Please provide comments, particularly on areas you see as needing improvement. Examples, ideas, and constructive suggestions are very welcome!

## Resident Well-being

<table>
<thead>
<tr>
<th>Point</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident well-being is important in our program.</td>
<td></td>
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</tbody>
</table>
## Collegiality of the Department

<table>
<thead>
<tr>
<th>Points</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Departmental (or divisional) consultants are helpful to residents.</td>
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<tr>
<td>Informal mentoring is available from departmental (or divisional) consultants.</td>
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<tr>
<td>There is support from fellow residents.</td>
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<tr>
<td>Residents are sensitive to fellow residents’ cultural differences.</td>
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<tr>
<td>The program is sensitive to residents’ cultural differences.</td>
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</tr>
<tr>
<td>The program allows residents to express their opinions and concerns without fear of retaliation.</td>
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<tr>
<td>The program is responsive to resident issues, suggestions, and complaints.</td>
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</tbody>
</table>

Please provide comments, particularly on areas you see as needing improvement. Examples, ideas, and constructive suggestions are very welcome!
## Career Guidance and Planning

<table>
<thead>
<tr>
<th>Points</th>
<th>Not applicable</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career guidance is clearly available.</td>
<td></td>
<td></td>
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<tr>
<td>The educational experiences prepare residents well for their ongoing career development.</td>
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</tr>
</tbody>
</table>

Please provide comments, particularly on areas you see as needing improvement. Examples, ideas, and constructive suggestions are very welcome!
**Professional Development**

<table>
<thead>
<tr>
<th>Points</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>There are opportunities for involvement in administrative work (e.g., hospital committees and resident committees).</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>There are opportunities to participate in research.</td>
<td></td>
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</tr>
<tr>
<td>There are opportunities to participate in teaching.</td>
<td></td>
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<tr>
<td>There is accessibility to the Internet (not necessarily in personal offices).</td>
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<tr>
<td>There is accessibility to computers (not necessarily in personal offices).</td>
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<tr>
<td>There is accessibility to library services.</td>
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</tbody>
</table>

Please provide comments, particularly on areas you see as needing improvement. Examples, ideas, and constructive suggestions are very welcome!
### Points

<table>
<thead>
<tr>
<th>Points</th>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Neutral</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I would recommend this rotation site to medical students.</td>
<td></td>
<td></td>
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</tbody>
</table>

**Note:** Aggregate data that will not identify respondents will be presented to training committees on an annual basis.
## Department of Pathology and Laboratory Medicine

**Anatomic Pathology Section**

### Lecture—Academic Day Session

<table>
<thead>
<tr>
<th>Topic:</th>
<th>Presenter (Initials):</th>
<th>Date:</th>
</tr>
</thead>
</table>

### 1. Please rate the presenter

<table>
<thead>
<tr>
<th>Topics</th>
<th>N/A</th>
<th>1 Poor</th>
<th>2 Needs improvement</th>
<th>3 Good</th>
<th>4 Very good</th>
<th>5 Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enthusiasm</td>
<td></td>
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<tr>
<td>Interaction with the audience</td>
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<tr>
<td>Preparation of the topic</td>
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</tbody>
</table>

### 2. Please rate the presentation

<table>
<thead>
<tr>
<th>Topics</th>
<th>N/A</th>
<th>1 Poor</th>
<th>2 Needs improvement</th>
<th>3 Good</th>
<th>4 Very good</th>
<th>5 Excellent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Information was presented in an organized manner</td>
<td></td>
<td></td>
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<tr>
<td>Information related to practical problems was presented</td>
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<tr>
<td>Audiovisual aids were of good quality</td>
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</tbody>
</table>
3. **Please rate the content of the presentation**

<table>
<thead>
<tr>
<th>Topics</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>The volume and complexity of the information presented was appropriate</td>
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<tr>
<td>The content was related to current evidence in the literature</td>
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<tr>
<td>The content was relevant to your practice</td>
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</tbody>
</table>

4. **Please rate the content in terms of the CanMEDS roles**

<table>
<thead>
<tr>
<th>Topics</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Expert</td>
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<tr>
<td>Scholar</td>
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<tr>
<td>Professionalism</td>
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<tr>
<td>Health Advocate</td>
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<tr>
<td>Communicator</td>
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<tr>
<td>Collaborator</td>
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<td>Manager</td>
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</table>

**Comments, suggestions, or feedback are welcome**
Appendix E

1. Logbook – Surgical Case Reports

INSTRUCTIONS

- Document only the cases for which the resident has performed a macroscopic and microscopic assessment.
- During the five (5) years of training, please record, in total:
  - 20 cases of complexity level < 5* (4/year)
  - 20 cases of complexity level > 5* (4/year)
  - The log sheet will be reviewed and signed off by your program director by the end of each rotation/year.
  - By signing off the sheet, the consultant pathologist certifies that the trainee has adequately dealt with the case according to his/her level of training.
- Print additional copies as necessary.

*Complexity levels: see the separate attached document, which has been adapted from the RCPA trainee handbook.

**PLEASE USE A NEW FORM AT THE BEGINNING OF EACH YEAR OF TRAINING**

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Lab ref. Number</th>
<th>Specimen type/diagnosis/complexity level</th>
<th>Consultant signature</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>
## 2. Surgical Cases Log-in

### Surgical Cases Log-ins

**INSTRUCTIONS**

- During the 5-year training period, please record a minimum of 2,500 (500/year) surgical pathology cases you have personally attended to and reported with the pathologist.

- Print additional copies as necessary.

- The log sheet will be reviewed by your program director by the end of each rotation/year.

**PLEASE USE A NEW FORM AT THE BEGINNING OF EACH YEAR OF TRAINING**

<table>
<thead>
<tr>
<th>No.</th>
<th>Lab ref. number</th>
<th>Specimen type/diagnosis/complexity level</th>
<th>Consultant signature</th>
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### 3. Frozen Sections Log

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<tr>
<th>No.</th>
<th>Date</th>
<th>Lab ref. number</th>
<th>Specimen type/diagnosis/complexity level</th>
<th>Consultant signature</th>
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<tbody>
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**Instructions**

- Document only cases in which the resident has personally participated during the frozen section.
- Record a minimum of 5 frozen sections per year.
- The consultant pathologist should assess:
  - The resident’s ability to choose the appropriate blocks
  - The resident’s ability to make a diagnosis
  - The resident’s ability to communicate with surgeons whenever applicable under supervision (particularly important for senior pathologists)
- The log sheet will be reviewed by your program director by the end of each rotation/year.

* Complexity levels: see the separate attached document, which has been adapted from the RCPA trainee handbook.

Please use a new form at the beginning of each year of training.
### 4. Cytology Log

**INSTRUCTIONS**

- During the five-year training period, please record and document participation in:
  - At least 50 gynecological cytology cases (10/year)
  - At least 50 non-gynecological cytology cases (10/year)
  - 10 fine-needle aspiration cases
  - At least two intervention cytology procedures during which the resident assisted the cytotechnologist (US- or CT-guided, ERCP-guided, etc.)

The consultant will assess the resident’s knowledge of:

- Basic cytological preparatory techniques
- Criteria of adequacy
- Sufficient knowledge of the interpretation of exfoliative and aspiration cytology
- Performance of FNA

Print additional copies as necessary.

The log sheet will be reviewed and signed off by your program director by the end of each rotation/year.

---

Please use a new form at the beginning of each year of training.

<table>
<thead>
<tr>
<th>No.</th>
<th>Date</th>
<th>Lab ref. Number</th>
<th>Specimen type/diagnosis/complexity level</th>
<th>Consultant signature</th>
</tr>
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</table>
Appendix F

SAUDI SPECIALITY BOARD IN ANATOMIC PATHOLOGY
Final In-Training Evaluation Report (FITER)

<table>
<thead>
<tr>
<th>Name of Resident:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Evaluation Period:</td>
<td></td>
</tr>
</tbody>
</table>

**In the view of the residency Local Committee, this resident has acquired the competencies of the specialty as prescribed in the Objectives of Training and is competent to practice independently.**

**The following were used as evidence of competence:**

1. End-of-rotation evaluation
2. Feedback from staff pathologists
3. Completion of research project

**COMMENTS**

**RESIDENT’S COMMENTS:**

Note: If, during the period from the date of signature of this document to the completion of training, the Residency Local Committee decides that the candidate’s performance is inadequate, this document can be considered null and might be replaced with an updated FITER.
Medical Expert

<table>
<thead>
<tr>
<th>Please provide a rationale to support ratings that have an asterisk.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Rarely meets*</td>
</tr>
<tr>
<td>2- Inconsistently meets*</td>
</tr>
<tr>
<td>3- Generally meets</td>
</tr>
<tr>
<td>4- Sometimes exceeds</td>
</tr>
<tr>
<td>5- Consistently exceeds*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1*</th>
<th>2*</th>
<th>3</th>
<th>4</th>
<th>5*</th>
</tr>
</thead>
</table>

**MEDICAL EXPERT**

**Surgical Pathology**

1. Has been exposed to and is able to handle an adequate variety and volume of gross specimens
2. Is able to handle and interpret intra-operative consultation effectively
3. Analyzes complex cases, performs thorough literature review, and makes necessary clinical and radiological correlations
4. Interprets pathology findings and integrates clinical information to make accurate diagnoses

**Cytopathology**

1. Is able to make an accurate diagnosis
2. Analyzes complex cases, performs thorough literature review, and makes necessary clinical and radiological correlations
3. Attends and performs fine-needle aspiration sessions/clinics
Procedural and Clinical Skills

Please provide a rationale to support ratings that have an asterisk.

<table>
<thead>
<tr>
<th>Rating</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Rarely meets*</td>
</tr>
<tr>
<td>2</td>
<td>Inconsistently meets*</td>
</tr>
<tr>
<td>3</td>
<td>Generally meets</td>
</tr>
<tr>
<td>4</td>
<td>Sometimes exceeds</td>
</tr>
<tr>
<td>5</td>
<td>Consistently exceeds*</td>
</tr>
</tbody>
</table>

**PROCEDURAL AND CLINICAL SKILLS**

a. Frozen: Professionally discusses the reason for frozen sections with the surgeon if needed.

b. Interacts appropriately with the surgeon to make a diagnosis

c. Is competent at grossing complex specimens

d. Accurately describes and adequately samples all specimen types

e. Adequately dictates grossing descriptions

Overall, shows proficiency in clinical and procedural skills

Please comment on strengths and weaknesses of the candidate.
Communicator

<table>
<thead>
<tr>
<th>Please provide a rationale to support ratings that have an asterisk.</th>
<th>1*</th>
<th>2*</th>
<th>3</th>
<th>4</th>
<th>5*</th>
</tr>
</thead>
<tbody>
<tr>
<td>1- Rarely meets*</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2- Inconsistently meets*</td>
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**COMMUNICATOR**

| a. Communicates efficiently with staff in the lab and clinical peers and colleagues; has a positive attitude. | | | | | |
| b. Is a role model for juniors in receiving and giving constructive feedback | | | | | |
| c. Speaks and writes English correctly and has reliable pathology-reporting skills | | | | | |
| d. Is able to convey equivocal findings or atypical findings in a clear and proper manner that is comprehensible to clinical colleagues | | | | | |

Please indicate specific strengths and weakness of the candidate. You may refer to specific scenarios if needed.
Collaborator

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**COLLABORATOR**

a. Routinely communicates with clinical colleagues to formulate a narrow differential diagnosis

b. Consults effectively with other staff members and is a team player

c. Prepares for and presents during multidisciplinary case conferences with the presence of the pathologist

Please comment on the strengths and weaknesses of the candidate and provide examples if applicable.
Manager

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**MANAGER**

a. During a busy service, efficiently grosses all specimens, reviews virtually all cases, teaches junior residents, and presents at tumor boards

b. Allocates resources effectively

c. Understands the importance of IHC control in every run

d. Acknowledges self-limitations and knows when to seek help

e. Takes quality-assurance deficits into account

f. Understands the clinical importance of turnaround time in pathology reporting

g. Is aware of the roles of a pathologist in managing personnel; interprets an organizational chart

Please comment on the strengths and weaknesses of the candidate and provide examples if applicable.
### Health Advocate

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#### HEALTH ADVOCATE

a. Recognizes a pathologist’s role in preventive measures

b. Recognizes the social, environmental, and biological determinants of health both regionally and internationally

Please comment on the strengths and weaknesses of the candidate and provide examples if applicable.
### Scholar

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Please comment on the strengths and weaknesses of the candidate and provide examples if applicable.
### Professional

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**PROFESSIONAL**

- a. Demonstrates ethical behavior
- b. Is diligent about attendance and punctuality
- c. Practices with respect, compassion, and empathy
- d. Seeks guidance or advice when in need
- e. Knows how to convey diagnostic errors and discrepancies to clinical colleagues
- f. Proactively takes responsibility and demonstrates leadership skills

Please provide any additional comments: